UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2000

Commission file number: 033-76414

ARIAD Pharmaceuticals, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**22-3106987**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

26 Landsdowne Street, Cambridge, Massachusetts 02139-4234
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: (617) 494-0400

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to Section 12(g) of the Act:

Common Stock, $.001 Par Value
Rights to Purchase Series A Preferred Stock

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

YES [X] No [ ]

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [ ]

The number of shares of the registrant's Common Stock outstanding as of March 13, 2001: 27,331,062.

The aggregate market value of the voting stock held by nonaffiliates of the registrant was approximately $111 million as of March 13, 2001, based on the last reported sales price of the registrant's Common Stock on the Nasdaq National Market on such date.

Documents Incorporated by Reference

Portions of the Definitive Proxy Statement (the "Proxy Statement") to be used in connection with the Registrant's 2001 Annual

Meeting of Stockholders are incorporated by reference into Part III of this Annual Report on Form 10-K.

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PART I

ITEM 1: BUSINESS

Corporate Overview

We are engaged in developing innovative pharmaceutical product candidates based on small-molecule drugs and our proprietary gene regulation technology platforms. We integrate functional genomics and proteomics, protein engineering, and structure-based drug design in our drug discovery process. All of our product candidates work through small-molecule regulation of cellular processes.

We currently have four development programs: (1) a dual-action drug candidate for *osteoporosis* that *both* blocks bone resorption and stimulates bone formation; (2) a drug candidate for *cancer* that blocks cell proliferation and tumor growth; (3) a regulated cell therapy product candidate for *graft-vs-host disease ("GvHD")* that selectively eliminates donor T-cells following allogeneic bone marrow transplantation ("BMT"), if they attack the patient's own tissues; and (4) a protein therapy for *anemia* that provides precisely controlled erythropoietin production *in vivo* using an orally administered drug. We have planned phase 2 clinical studies of our GvHD product candidate in patients with various types of cancer and non-malignant diseases undergoing BMT. We also have a series of follow-on programs, including regulated stem cell therapies and potential treatments for inflammation and autoimmune diseases.

Our benchmark gene regulation platform technologies, known as ARGENT ™, RPD™, and RGE™, already are being used by approximately 400 academic investigators worldwide for scientific research and are the subject of over 100 papers published in the scientific literature. In return for providing the technologies for academic research, we receive some intellectual property and commercialization rights to discoveries made as a result of their use. Commercial licenses to these technologies also are available to pharmaceutical and biotechnology companies for use in their drug discovery efforts. Additionally, our technologies are available for collaborative development of novel gene and cell therapy products.

In our protein therapy programs, our gene regulation platform technologies provide: (1) sustained, long-term delivery of therapeutic proteins (ARGENT); (2) repeated, short bursts of protein delivery (RPD); and (3) potent activation of endogenous and engineered genes (RGE). In our regulated cell therapy program, the technologies feature highly efficient gene transfer, cell-growth or cell-death switches that are controlled with small-molecule drugs, and broad applicability to both primary and stem cells (e.g., regenerative medicine). An invaluable safety feature distinguishes our gene regulation technologies: gene activity can be terminated by withdrawal of the regulating small-molecule drug.

Our business strategy balances potential near-term revenues with longer term product development opportunities. We plan to (1) develop our current lead product candidates at least through phase 2 clinical trials; (2) establish the commercial infrastructure to market certain of our lead products in selected markets and/or indications; (3) pursue collaborative partnerships for other markets and products; (4) license our platform technologies to selected biotechnology and pharmaceutical companies to help accelerate their genomics, proteomics, and drug discovery programs; and (5) partner these technologies for joint development of novel products, especially with companies that have proprietary therapeutic genes, cellular systems (e.g., stem cells) or gene delivery vectors.

The Challenge of the Genomics Revolution

The recent publication of draft sequences covering most of the human genome – the genetic blueprint of a human being – is the culmination of a remarkable scientific endeavor that began over a decade ago. With broad access being provided to scientists around the world, this extraordinary roadmap serves as a basis for medical researchers to design better drugs and innovative therapies for many diseases.

It also marks the onset of an even more challenging task. Now that scientists have a map of the location of 30,000 or so human genes, researchers appear to be well-positioned to learn about the role of genetics in

human development, physiology, medicine and evolution and to begin defining the importance of variations in those genes, known as polymorphisms. Scientists also will need to identify the proteins that are produced by those genes, either singularly or in concert, and use that information to characterize various disease states. This will be a daunting task, because human genes, instead of yielding only one protein per gene, can encode several different proteins through a process in which different parts of a protein are rearranged as needed to make different proteins from the same basic building blocks.

The first wave of genomics, the large-scale sequencing of the human and other genomes, is leading to a vast increase in the number and classification of genes, as well as to dramatic enhancements in the ability to link genes and disease. This knowledge has, in turn, led to a new understanding of the molecular basis of disease and to new genomics-derived disease targets and the concept of molecular medicine. A new generation of gene-based protein and small-molecule drugs provides an opportunity to develop both novel disease therapies and drugs with fewer side effects.

The human genome is expected to provide the foundation for this research. With the draft sequence in place, we believe that functional genomics and proteomics will become the focus of attention in drug discovery research. The expanding knowledge of the human genome and proteome will help elucidate the molecular mechanisms of disease. Technologies capable of accelerating this complex process will become critically important tools in our efforts to learn about the role that genes and proteins play in human physiology and pathology. Understanding over-expression or down-regulation of genes, novel pathways of protein-protein interactions, and the interrelationships between different genes and proteins present important challenges for scientists in the 21st century.

Science and Technology

We believe that we are well positioned to capitalize on the growing availability of genomic information through our understanding of the processes of signal transduction and gene regulation, both of which are a part of normal cellular function. Defects in gene regulation and signal transduction play critical roles in most major diseases. As a result, technologies based on these processes have a broad range of potential therapeutic applications.

Signal transduction pathways are a part of normal cellular function and serve to regulate gene expression and many other cellular functions in response to external stimuli. Both signal transduction and gene regulation are controlled at the molecular level through the formation of protein-protein and protein-DNA interactions. Diseases associated with abnormal signal transduction and gene regulation can be linked at the molecular level with specific protein-protein interactions and thus with molecular drug targets. We have particular expertise in the design and synthesis of small-molecule drugs that control specific intracellular protein-protein interactions. These small-molecule compounds are used in our ARGENT platform technology to control the processes of gene regulation and signal transduction and are used in our signal transduction inhibitor programs to block disease-related signaling within the cell .

Our Core Competencies

Our research programs are built around key areas of expertise in functional genomics and proteomics, protein engineering, and structure-based drug design. We believe that the combination of these core competencies provides us with significant opportunities in the era of post-genomic drug discovery.

Functional genomics and proteomics are the study of gene and protein function, or more specifically the study of how particular genes and proteins regulate cellular function. A further aspect of functional genomics is the study of how the encoded proteins are linked in signal transduction pathways and how these pathways are regulated. Functional genomics has particular relevance to the process of identifying a specific disease-related molecular target for drug discovery, a process termed target validation.

Protein engineering is the design and modification of proteins based on the knowledge of their atomic level structure, obtained through the use of protein X-ray crystallography or nuclear magnetic resonance

spectroscopy ("NMR"). Usually, the design process utilizes the three-dimensional structure of the protein to incorporate non-native amino acids into the protein structure. This process generates new surface characteristics, thereby altering the small-molecule or protein binding properties of the protein.

Structure-based drug design is a computational approach used to design small molecules that bind specifically to a particular protein, for example, the critical molecular target linked to a disease. Using the target protein's three-dimensional atomic structure, drugs can be designed and optimized to bind both tightly and selectively to the target, which is expected to lead to more potent drugs with fewer side-effects. Structure-based drug design is applied directly to validated targets in our signal transduction inhibitor programs to optimize lead compounds.

We have utilized our key areas of expertise to establish two broad programs, each potentially yielding multiple product opportunities:

- Our *signal transduction inhibitor program* is developing potent small-molecule drug candidates that "turn off" specific signaling proteins which have been validated as molecular targets in important diseases.

- Our *regulated gene and cell therapy program* has developed proprietary gene regulation platform technologies for activating ("turning on") specific genes and proteins using small-molecule drugs and has applied them to create innovative product candidates, as well as tools for genomics, proteomics and drug discovery research.

Our Business Strategy

Our business strategy balances potential near-term revenues with longer term product development opportunities. To achieve this goal, we plan to:

- Develop our current lead product candidates ourselves at least through phase 2 clinical trials,

- Establish the commercial infrastructure to market certain of our lead products in selected markets and/or indications,

- Pursue collaborative partnerships for other markets and products,

- License our platform technologies to selected biotechnology and pharmaceutical companies to help accelerate their genomics, proteomics and drug discovery programs, and

- Partner our gene regulation technologies for joint development of novel products, especially with companies that have proprietary therapeutic genes, cellular systems (e.g., stem cells) or gene delivery vectors.

Our Lead Product Candidates

We have four current read product candidates. Two of them are gene-targeted drugs that regulate critical signal transduction pathways. These include an inhibitor of the Src protein tyrosine kinase for the treatment of *osteoporosis* and other hyperresorptive bone diseases and an *anticancer* drug candidate that interferes with molecular pathways that control cell proliferation and tumor growth. We are also developing two product candidates based on our ARGENT gene regulation technology. These include a regulated cell therapy product candidate to treat *Graft-vs-Host Disease* following allogeneic bone marrow transplantation and a regulated protein therapy product candidate to treat *anemia* that provides precisely controlled erythropoietin production *in vivo* by an orally administered drug.

Osteoporosis

The Disease: Osteoporosis, or porous bone, is characterized by low bone mass and structural deterioration of bone tissue, leading to bone fragility and increased susceptibility to fractures, most commonly of the hip,

spine and wrist. Bone is a living substance in which the tissue is constantly being broken down (resorption), while new bone is being formed. This process is called bone turnover. A full cycle of normal bone remodeling takes about two to three months. Bone resorption is accomplished by specialized cells in bone known as osteoclasts, and new bone is generated by another group of special cells known as osteoblasts. The balance or imbalance between the activity of the osteoclasts and osteoblasts determines whether bone mass increases, remains the same or decreases over time.

During the first 20 to 30 years of life, bone regeneration is greater than bone resorption which results in a net increase in bone mass. Beginning at about 35 years of age, a slow phase of bone resorption begins in which bone breakdown is slighter greater than bone regeneration. This slow phase continues well into old age in both men and women resulting in a net decrease in bone mass over time. Superimposed onto this slow phase of bone loss, women experience an accelerated postmenopausal phase of bone resorption and can lose a significant amount of their bone mass within five to seven years following menopause. According to the National Osteoporosis Foundation, osteoporosis is a major public health threat for more than approximately 28 million Americans, 80% of whom are women.

Osteoporosis is often called a “silent disease,” because bone loss occurs without symptoms. People may not know that they have osteoporosis until their bones become so weak that a sudden strain, bump or fall causes a fracture or a vertebra to collapse. Collapsed vertebra may initially be felt or seen in the form of severe back pain, loss of height or spinal deformities such as a stooped posture. The cost for treating osteoporosis and associated bone fractures has been estimated to be approximately $14 billion annually. This is expected to rise significantly in the next decade. One in two women and one in eight men over the age of 50 are expected to develop osteoporosis-related fractures during their lives.

Current Therapies: There presently is no cure for osteoporosis. However, several medications have been approved by regulatory authorities for the prevention or treatment of osteoporosis. The major activity of these approved products is to reduce the bone resorbing activity of the osteoclasts, thereby reducing or preventing further bone loss. In addition, decreasing osteoclast activity provides an opportunity to indirectly shift the balance of activity to the osteoblasts which further assists in prevention of further bone breakdown along with a potential for some increase in bone mass.

Approved treatments for osteoporosis include estrogen replacement therapy (“ERT”) and selective estrogen receptor modulators (“SERM’s”). ERT has been available for several years and provides a beneficial effect for obvious reasons through hormonal mechanisms. The major risk-to-benefit issue that needs to be considered in using this therapy is the association of ERT with the risk of developing cancer of the uterine lining, known as endometrial cancer. The more recent availability of SERM’s may offer reduced risk of cancer. Additional experience, however, will be needed to clarify the comparative risks. Other reported side effects with SERM’s include hot flashes and the occurrence of blood clots in deep veins.

Another approved treatment for osteoporosis is the oral administration of a non-hormonal class of drugs known as bisphosphonates. They inhibit osteoclast-mediated bone resorption and, as such, have been widely used. This treatment has been associated with side effects that can be disturbing to some patients. In particular, it irritates the lining of the upper gastrointestinal tract causing some patients to experience nausea, heartburn and irritation of the esophagus. Although the incidence of these side effects can be reduced by carefully controlling the administration of drug in relation to food intake, as well as controlling the physical activity of the patient for a time period following each administration, patient compliance would be greatly enhanced if more palatable, effective drugs were to become available.

Calcitonin, a naturally occurring non-sex hormone involved in bone metabolism, is also approved for the treatment of osteoporosis. This drug is not available in an orally administered form and must be taken by nasal inhalation. In addition to experiencing allergic reactions, other unpleasant side effects include flushing of the face and hands, urinary frequency, nausea and skin rash.

Our Approach: While each of the above therapies provides beneficial effects to patients with osteoporosis, there is an opportunity to develop better tolerated and more effective drugs. One major advance would be the introduction of a novel class of drugs that not only inhibits osteoclast-mediated bone resorption but also directly stimulates the growth of new bone. Our scientists are working on the development of such a class of small-molecule drugs for the treatment of osteoporosis and related bone diseases, including Paget's disease, renal bone disease, malignancy associated hypercalcemia, osteolytic bone metastases and periodontal disease. The drugs that are being developed are designed to interact with a specific protein in bone cells that are critically involved in bone breakdown and bone formation. Src, a protein tyrosine kinase, has been shown to be a validated target for osteoporosis through genomics experiments. In a special strain of mice that were genetically manipulated to delete the Src gene, several groups of researchers found that the deletion prevented bone resorption, increased bone mass and enhanced bone formation. Based on these observations, we anticipate that a drug capable of inhibiting the activity of the Src tyrosine kinase should provide the same effects as observed in the specific gene-depleted mice.

In vitro and *in vivo* studies have demonstrated that several of our novel Src inhibitors have a beneficial effect on both stages of bone remodeling as predicted in the genomics models. We anticipate that the dual action of these compounds will provide an extremely important advancement in the treatment, prevention and potential reversal of osteoporosis. Our dual-action Src inhibitors are in preclinical development.

Cancer

The Disease: Cancer, one of the major causes of death in the Western world, is a collection of diseases characterized by uncontrolled cell growth. Great strides have been made in the past few decades in understanding the molecular basis of cancer by searching for genetic differences between normal cells and cancer cells. In particular, numerous proteins have been identified that are often genetically altered or over-expressed in tumors. Typically, these proteins are components in signal transduction pathways that control normal cell growth. Proteins that respond to growth factors or regulate the "cell cycle" play critical roles in the orderly replication of cellular components during cell division. These proteins, called "oncogenes," represent key targets for anti-cancer drug design, since drugs that inhibit their activity are expected to re-establish normal growth control.

Current Therapies: Several forms of medical therapy have evolved since the introduction of cytotoxic chemotherapy over 50 years ago. Although the mainstay of cancer therapy, chemotherapy is limited by its lack of specificity. Normal healthy cells are killed by these agents, along with malignant cells. However, since rapidly dividing cancer cells are more susceptible to lower doses of these drugs than are most normal healthy cells, an acceptable therapeutic index has been achieved with clinically useful chemotherapeutic agents. Endocrine therapy is currently used to treat cancers of certain hormone-sensitive organs. Medical therapy, as opposed to surgery or radiation therapy, is generally indicated when the cancer has disseminated from its site of origin and/or is not localized to a specific anatomical site. Several recombinant biologics also have emerged as important options for treating cancer. Recently, small molecules and monoclonal antibodies that target molecular determinants of malignant transformation have been approved for use in specific cancers, and others currently are in development.

Our Approach: Many oncogenes are from a class of proteins known as protein kinases, which function to transfer phosphate groups from one protein to another. Protein kinases are emerging as a promising area for drug design, with several kinase-targeted drugs in clinical development. Because of the inherent structural similarities among protein kinases, information and chemical building blocks that are generated during efforts to design one inhibitor can be readily applied to the design of inhibitors of other biologically important protein kinases. Using our expertise in designing inhibitors of protein kinases involved in signal transduction, including Src, our scientists are designing novel small-molecule cancer therapeutics that target oncogenes and cell-cycle regulators that have been implicated in clinically important cancers.

Our cancer product candidates selectively inhibit the growth of multiple types of cancer cells in laboratory tests. Several candidates are currently in preclinical studies, which include analysis of their properties in animal and cellular models of tumor growth and angiogenesis.

Graft-vs-Host Disease

The Disease: Bone marrow transplantation has become a well-established medical procedure to treat diseases that until recently were considered incurable. Bone marrow transplants are an important therapy today for numerous cancers, in particular hematologic malignancies, such as leukemias. In addition, patients with solid tumors, such as breast and colon cancer, and non-malignant diseases, such as aplastic anemia, hemoglobinopathies, and autoimmune diseases, have been shown to benefit from bone marrow transplants. In principle, the procedure permits patients to receive very high doses of chemotherapy and/or radiation therapy to kill abnormal cells within the bone marrow itself or abnormal cells at a site other than in the bone marrow. In both cases, the aggressive treatment not only eliminates the unwanted (cancerous) cells, but also destroys healthy cells within the bone marrow. Therefore, the patient's bone marrow must be replaced by intravenous infusion of bone marrow or precursor stem cells from a compatible donor.

According to published reports, there are approximately 40,000 bone marrow transplants performed annually. Over one-third of these were allogeneic, meaning the transplanted cells were obtained from a donor rather than from the patient's body. The donor's bone marrow must match the genetic makeup of the patient's own marrow as closely as possible. If there is not a good genetic match between the donor and patient, the recipient is at risk for developing Graft-vs-Host Disease ("GvHD"), a systemic disease caused by donor immune cells that attack a patient's organs and tissues. This is mediated by the ability of T cells to recognize an inherited set of genetic markers known as human leukocyte antigens ("HLA's") that are found on the surface of human cells. If the donor T cells recognize that the patient's HLA's are sufficiently different from the donor's HLA's, the donor's T cells quickly activate the immune system to destroy the patient's cells, which are considered to be foreign. The major organs affected in this process are the patient's skin, mucusa, liver and gastrointestinal tract.

The condition described above is known as GvHD, and it is one of the most frequent significant complications of allogeneic bone marrow transplantation. It occurs in over one-third of allogeneic bone marrow transplant recipients and frequently is life-threatening or fatal. The incidence of GvHD is higher among patients whose bone marrow donor is unrelated or not perfectly matched. Patients with GvHD also have an increased susceptibility to infection. The risk of death from GvHD is especially high in patients receiving mismatched transplants from distant family members or unrelated donors.

Current Therapies: The incidence and severity of GvHD can be reduced by a common procedure in which T cells are depleted from the donor bone marrow prior to transplantation. Unfortunately, this also diminishes several beneficial effects of T cells including (1) anti-tumor activity, (2) improved engraftment of donor bone marrow in the patient and immune reconstitution and (3) prevention of early infectious complications by providing a functional immune system. To recapture the beneficial effects of T cells, the depleted bone marrow generally is supplemented with delayed infusion of donor T cells, referred to as a donor lymphocyte infusion ("DLI"). However, for these patients, GvHD represents a common and potentially lethal complication of the T cell infusion.

Highly effective treatments for GvHD are currently unavailable. In fact, clinical experience indicates that approximately half of GvHD patients fail to respond fully to the current standard treatment which consists of high-dose steroids and immunosuppressive agents. The lack of a highly effective treatment, coupled with the poor prognosis of presently available rescue therapy for these failed patients, highlight the need for improved treatments for GvHD. Although there are several alternate therapies under clinical investigation, including T cell directed monoclonal antibodies and cytokine antagonists, we believe that they are limited by their inability to fully distinguish those T cells that are causing GvHD from those providing beneficial effects. Consequently, these treatments may eliminate the beneficial effects of the non-causative T cells that are being produced by the transplanted bone marrow.

Our Approach: A safe and effective treatment for GvHD should have a significant impact on patient outcome and also should increase the number of patients who could benefit from allogeneic bone marrow transplantation by improving the risk-to-benefit ratio of the treatment. We have developed a new treatment

for GvHD that specifically allows for the elimination of the cells that cause the disease (i.e., the donor T cells), if necessary, while preserving the transplanted bone marrow cells that are required to treat the underlying disease. Our GvHD product candidate is a regulated cell therapy, in which the donor T cells are modified to make them responsive to a drug that can be administered to patients at the most appropriate time. Our product candidate is based on the ARGENT gene regulation technology for controlling cellular processes using small molecules.

The ARGENT GvHD treatment is integrated into standard bone marrow transplantation procedures, as follows:

- T cells are isolated from a donor using standard procedures and are genetically engineered to introduce a "conditional suicide gene," known as Fas.
- The engineered donor lymphocytes are then infused into the patient at prescribed times after bone marrow transplantation.
- If GvHD occurs, the patient receives our gene-targeted drug, AP1903.
- AP1903 rapidly causes the donor T cells to die, analogous to "committing suicide," leaving the underlying bone marrow and immune system unaffected and thus treating the underlying cause of GvHD.

We have planned phase 2 clinical studies of our GvHD product candidate in patients with various types of cancer and non-malignant diseases undergoing allogeneic bone marrow transplantation. Our small-molecule drug, AP1903, was found to be safe and well tolerated in a Phase 1 clinical study. In addition, this study showed that AP1903 reached blood levels that are expected to be clinically effective.

Anemia

The Disease: Red blood cells are manufactured in the bone marrow and transport oxygen from the lungs to the cells of the body and carbon dioxide to the lungs. Erythropoietin ("Epo") is a naturally occurring protein made primarily in the kidney which stimulates the manufacture of more red blood cells, when needed, by a process known as erythropoiesis. The role of Epo, therefore, is to maintain the number of red blood cells at an optimal level to provide sufficient oxygen transport to cells and tissues. In addition, if the amount of oxygen available to the cells is too low, a feedback mechanism stimulates the production of Epo and the manufacture of more red blood cells. Epo stimulates the growth of stem cells in the bone marrow to become mature red blood cells. If the body loses its ability to manufacture sufficient quantities of Epo, the optimal number of red blood cells in the circulation no longer can be maintained. This is the case for many individuals who suffer from severe renal disease and results in a steady decrease in the number of red blood cells, which eventually leads to a reduction in the transport of oxygen to tissues. A clinically significant reduction in the number of red blood cells (and their oxygen carrying component, hemoglobin) is known as anemia.

Current Therapies: Recombinant Epo is presently being used for the treatment of anemia caused by chronic renal failure (including end-stage renal disease), cancer chemotherapy and zidovudine treatment of HIV-infected individuals. Epo also is used in the treatment of anemic patients scheduled to undergo elective noncardiac or orthopedic surgery, in order to reduce the need for these anemic patients to undergo pre-operative blood collections and post-surgical blood infusions. Today's standard treatment generally requires recombinant Epo to be injected several times a week into a vein or under the skin.

Our Approach: We are developing an alternative approach to deliver and regulate therapeutic proteins, such as Epo, based on our ARGENT gene regulation technology. We have selected Epo as our initial product candidate to demonstrate the clinical utility of this platform for protein therapy. Rather than relying on repetitive injections of Epo to provide the therapeutic response, our approach provides a protein therapy which is regulated by small-molecule drugs. This product candidate involves a single, or infrequent,

injection(s) of the gene into the patient's muscle or other target organ in an inactive form. The patient then will take our dimerizer drug orally which activates the newly introduced Epo gene to manufacture the patient's own Epo. The production of Epo only occurs when the patient takes the dimerizer drug, and the amount of Epo manufactured depends on the amount of drug the patient takes. The Epo produced naturally by the genes in the body appears to work in the same way and have the same beneficial effects as Epo produced naturally by healthy kidneys. This system offers a means of precisely controlling the amounts of Epo to be delivered by adjusting the dose of the drug.

Based on industry data, we believe that the market for recombinant human Epo has been growing substantially in recent years, and the market size currently stands at over $3 billion annually. This provides potential opportunities for new technologies that have advantages over the current products. We believe that the competitive advantages of ARGENT protein therapy include:

- Replacement of an injectable recombinant product largely by an orally active drug.
- Protein production precisely controlled within an acceptable therapeutic window as opposed to the widely varying blood levels that occur frequently by injectable routes of administration.
- Sustained high levels of protein achievable, higher levels than those routinely achieved with the recombinant protein.

Our ARGENT Epo product candidate currently is in preclinical development. To date, our scientists have demonstrated regulated production of Epo in experimental animals, including mice and non-human primates for a duration of over two years. In addition to potentially providing improved treatment of certain patients with anemia, we believe this program will serve as an excellent model to demonstrate the clinical utility of our ARGENT system for the delivery of other therapeutic proteins.

Our Enabling Platform Technologies

Our ARGENT, RPD, and RGE gene regulation technologies are being employed in two broad ways:

- To develop innovative gene and cell therapy products regulated by small-molecule drugs, and
- For use as tools in functional genomics, proteomics, and drug discovery research, including the Regulation Kits we provide to academic investigators.

Signal transduction is the process of relaying a stimulus within the cell. This process often culminates in gene activation, the turning on of specific genes, leading to production of the corresponding proteins which then carry out the tasks required to accomplish the cellular response. Many of the critical functions of cells, such as cell division, differentiation into specialized cell types, response to stimuli, and even cell death, take place through the processes of signal transduction and gene activation.

Research over the last decade has revealed that many of these key cellular signaling functions take place through a series of induced interactions between proteins. When two proteins are brought within close proximity, their signaling activities are activated through a process known as dimerization. Based on this finding, we and our collaboarators developed the ARGENT platform technology for intervening in these processes and bringing them under the control of small-molecule drugs.

Regulating Signaling Pathways Using Our ARGENT Technology: ARGENT applications use a unique type of small molecule called a dimerizer drug. This class of drugs has two binding surfaces and is able to bind to two protein targets at the same time, thereby bringing the proteins together. Stuart L. Schreiber and Gerald R. Crabtree, members of our Board of Scientific and Medical Advisors, and their colleagues, first described the concept of using dimerizer drugs to control cellular activities in a publication in *Science* in 1993. The procedure involves engineering a signaling protein of interest by linking it to a second protein that binds to a dimerizer drug. This engineering is accomplished by altering the gene encoding the signaling protein.

When cells that express the modified protein are treated with a dimerizer drug, the drug brings together the two copies of the engineered protein and activates its signaling pathway.

Because protein-protein interactions are such a common mechanism in signal transduction, the ARGENT system has proven to be very broadly applicable and has been used to control many different signaling proteins. We have performed extensive optimization and testing of the ARGENT system and have used our expertise in structure-based drug design and protein engineering to develop potent and specific dimerizer drugs for clinical applications. Dimerizer-mediated control of signaling forms the basis of our regulated cell therapy product candidates, in which AP1903 and similar dimerizer drugs can be used to control either cell survival or cell growth. We also distribute and license ARGENT Regulation Kits based on dimerizer-regulated signaling for use in functional genomics, proteomics and drug discovery research.

Regulating Genes Using Our ARGENT Technology: The process of gene activation also takes place through a mechanism based on induced molecular proximity. In this case, specific proteins called transcription factors bind to target genes, where they interact with other proteins to initiate the reading of the gene. Our ARGENT technology also can be used to bring gene activation under the control of a dimerizer drug. To achieve this, a transcription factor is split into two engineered proteins, a DNA binding domain and an "activation" domain, each of which is joined to a protein that can bind to a dimerizer drug. When the drug is added, the intact transcription factor is reassembled, and gene activation ensues. We believe that virtually any gene can be modified to be responsive to these engineered transcription factors, meaning that our ARGENT system is a powerful general approach for controlling specific genes using small-molecule drugs.

The ARGENT transcription switch is broadly applicable to gene therapies in which a therapeutic gene is administered but only is activated when a patient takes an orally active dimerizer drug. Our ARGENT technology provides a means of achieving gene expression only when needed, controlling the levels of protein produced and terminating therapy when necessary. We call these applications orally active protein therapy. We have performed extensive research designing and optimizing the ARGENT system for use in regulated gene therapies, including demonstrating that regulation is exceptionally tight, with no transcription occurring in the absence of the dimerizer drug. Our product candidate for treating anemia, based on dimerizer-regulated expression of Epo, is currently in preclinical development. We also distribute and license ARGENT Regulation Kits based on dimerizer-regulated transcription for use in functional genomics and drug discovery research.

Potent Activation of Gene Expression Using Our RGE Technology: The potency of a transcription factor in activating gene expression is dependent on the strength of its activation domain. Most applications in gene therapy and in research require gene expression levels to be as high as possible. As part of our work on the ARGENT system, we have developed several classes of activation domains that are substantially more potent than published alternatives. These include novel combinations of activation domain modules and a new method for packaging activation domain modules as "bundles" rather than as individual units. Our suite of proprietary activation domains for robust activation of gene expression is referred to as our RGE technology.

The RGE technology platform also has a broad range of applications. In ARGENT product candidates for regulated gene therapy, the use of RGE components leads to higher levels of protein production in response to a dimerizer drug. The RGE technology also allows genes to be activated under conditions which are normally resistant to activation, such as in the many potential gene therapy applications in which gene transfer into cells may be inefficient. Gene activation also is a fundamental step in many functional genomics and research applications, including the activation of endogenous (as opposed to engineered) genes, and the control of gene activity for the purposes of functional genomics analysis. All of these applications may benefit from the enhanced sensitivity and potency of RGE transcription factors.

We have incorporated the RGE components into our ARGENT product candidate to treat anemia. The ARGENT Regulation Kits for dimerizer-regulated transcription that we distribute and license also provide the option of incorporating RGE activation domains.

Rapid Delivery of Proteins Using Our RPD Technology: The ARGENT approach to orally active protein therapy described above provides a general means to regulate the production of proteins using gene therapy. A single dose of a dimerizer drug typically would activate protein production over the course of a day. Production would then fall off over a period of days to weeks or until the next dose of dimerizer drug. This fairly slow timeframe – a consequence of regulating transcription, an early step in protein production – is ideal for delivering proteins that act slowly. However, other proteins require secretion into and clearance from the blood much more quickly.

We have developed a novel regulatory platform technology for delivering rapid pulses of proteins in a timeframe ranging from minutes to hours under the control of a small-molecule drug. Our RPD technology mimics the strategy naturally used to achieve pulses of production of insulin and other proteins, by regulating the very last step – protein secretion itself. This technology is based on a proprietary method of storing large clusters of pre-made proteins inside cells. Proteins are released almost immediately in fully active form in response to a small-molecule RPD drug, which breaks apart the protein clusters.

Our scientists, together with collaborators at Memorial Sloan-Kettering Cancer Center and the University of Geneva, published a paper in *Science* in 2000 that described regulated delivery of insulin and human growth hormone in mice using our RPD technology. Brief pulses of protein could be induced in a dose-dependent manner using a RPD drug, and the system could be used to control insulin secretion and glucose levels in a mouse model of insulin-dependent diabetes. Based on these data, we are further exploring the potential of our RPD technology for orally active protein therapy.

The underlying technology of our RPD technology for controlling protein aggregation also can be applied broadly to the rapid activation or inactivation of engineered signaling proteins using small molecules. In a publication in the *Proceedings of the National Academy of Sciences, USA* in 2000, we described how the location or activity of proteins can be altered within minutes by adding or removing a RPD compound. This approach complements our ARGENT technology for functional analysis of protein activity. We distribute and license a RPD Regulation Kit that provides reagents for using ligand-regulated secretion and aggregation technology in proteomics and drug discovery research.

Follow-on Programs

Overview: We have several research programs aimed at developing follow-on product candidates. These programs are designed to leverage progress in the development of our current lead product candidates.

Signal Transduction Inhibitors – Immune Diseases: Organ transplant rejection and autoimmune disorders, such a rheumatoid arthritis, multiple sclerosis and inflammatory bowel disease, are caused by unwanted reactions of the immune system. A substantial market exists for small-molecule immunosuppressive drugs that can overcome the limitations of current therapies. We believe that a ZAP-70 signal transduction inhibitor should have a better safety profile than existing therapies, because it will not have the known toxicities of many marketed drugs for this indication. Functional genomics studies have validated ZAP-70 as a critical signaling protein in the T cell activation pathway. Patients with severe immunodeficiency have been identified that have a genetic defect in ZAP-70. This protein is essential for antigen-induced activation of T cells. These functional studies strongly indicate that a small-molecule drug that selectively blocks ZAP-70 may represent an effective immunosuppressive therapeutic with minimal side effects.

Signal Transduction Inhibitors – Inflammation: Inflammation is an important defense mechanism against injury, but leukocytes (white blood cells) that are recruited to sites of damage can lead to a variety of inflammatory conditions, such as arthritis and asthma. We believe that small-molecule inhibitors which prevent the activation of the gene regulator protein known as NF- κB may be potent and selective inhibitors of inflammation. Our collaborators have identified proteins in the signal transduction pathways that converge on NF-κB as excellent targets for small-molecule drug development. We have established a strong intellectual property position in this program based on an exclusive license we obtained to inventions made by David Baltimore, a member of our Board of Scientific and Medical Advisors, and his colleagues relating to the discovery of this pathway more than a decade ago.

ARGENT Stem Cell Gene Therapy: In our ARGENT product candidate to treat GvHD, AP1903 treatment leads to cross linking of an engineered receptor that causes modified T cells to die. By replacing the cell-death receptor with a domain from a receptor that signals cell growth, the opposite outcome can be induced: regulated growth and division of engineered cells. This is the basis of our ARGENT cell-growth switch, which is being applied to the development of regulated cell therapies, including stem cell gene therapies, for the treatment of a wide range of genetic and acquired diseases. Today, this work is being carried out largely through our academic collaborations.

Stem cells are "master" cells that retain the ability to specialize, or "differentiate," into many different types of specialized cells. Recent research has emphasized the broad potential of stem cells to treat disease by providing a source of cells that can be used to replace defective cells, tissues or even whole organs. Many diseases could be cured or treated if stem cells could be modified to include therapeutic or corrective genes. However, key limitations remain to the widespread use of stem cell based therapies, including the inability to transfer therapeutic or corrective genes into stem cells efficiently, and the subsequent difficulty in reliably deriving large numbers of specialized cells of the correct type and purity. The ARGENT cell-growth switch offers a potential solution to both of these problems by providing a controlled way to stimulate the growth of rare modified cells *in vitro* or *in vivo*.

Work on the cell-growth switch has been pioneered by our collaborator, C. Anthony Blau of the University of Washington. In 2000, Dr. Blau reported in *Nature Genetics* that the cell-growth switch could be used to obtain long-term stimulation of production of modified red blood cells from bone marrow precursors in experimental animals. This *in vivo* proof-of-concept suggests new approaches to treating inherited blood disorders, which are currently being tested in animal disease models.

Together with several of our collaborators, we also have demonstrated the regulated growth of other potentially useful cell types, using cell-growth switches customized for the desired cell therapy product. These include liver cells (for the treatment of hepatic disease), muscle cells (for the treatment of heart failure), and neuronal cells (for the treatment of neurodegenerative diseases). At present, we are evaluating these opportunities for potential product development.

ARGENT and RPD Orally Active Protein Therapy: We believe that gene therapy is a promising general platform for the delivery of secreted therapeutic proteins, which is a class of pharmaceutical products that already accounts for over $10 billion in annual sales and may rise as further protein candidates are identified from the human genome project. However, for gene therapy to fully realize its potential, we believe that pharmacological control over the level of expression will be critical. Such therapies should permit protein levels to be optimized within a therapeutic window and confer enhanced safety by allowing therapy to be terminated, if necessary.

Our ARGENT and RPD gene regulation technologies can be applied broadly to multiple protein product opportunities. Currently, we are pursuing development of our ARGENT product candidate for anemia based on dimerizer-regulated transcription of the gene for Epo. We believe that information obtained from these studies can be used to accelerate the development of follow-on product candidates based on the same technology. In addition, we are exploring the potential of a number of orally active protein therapies based on the RPD technology platform for delivery of rapid pulses of protein.

Technologies to Accelerate Drug Discovery: Our Regulation Kits

Overview: Our proprietary technologies for controlling intracellular processes with small molecules represent versatile tools for use in cell biology, functional genomics, proteomics, and drug discovery research. To maximize their use by the research community, we distribute our technologies free of charge to academic researchers in the form of Regulation Kits. Approximately 400 investigators worldwide already are using these Regulation Kits in diverse areas of research, and approximately 100 scientific papers describing their use have been published. For researchers in commercial entities, we have established an alternative commercial licensing program to provide them with access to the technologies.

Target Validation – Signal Transduction: As analysis of the human genome sequence uncovers a wealth of new uncharacterized genes, a key challenge will be validating those genes that are good drug targets. Many of these are likely to be signaling proteins. Our ARGENT technology allows single signaling proteins to be activated in isolation, allowing their precise functional role to be assessed *in vitro* and then *in vivo*. ARGENT tools are effective for early analysis of newly identified "orphan" signaling proteins, because no knowledge of natural ligands or binding partners is required. In addition, identification of new pathway components and gene expression changes that occur with activation can be used to identify and further validate new drug targets.

Once a signaling pathway has been validated, the same dimerizer-controlled system can provide useful tools for the next stages of drug development. The inducible construct can be engineered into experimental animals to provide an ARGENT model of the associated disease. ARGENT cell lines in which the validated signaling complex can be inducibly activated also can provide the basis for highly targeted cell-based screening for small-molecule drug candidates.

Target Validation – Gene Transcription: Varying the expression level of a gene is an effective way to study its function. The tight, dose-dependent control of expression afforded by ARGENT studies allows precise correlation of gene expression levels with their physiological consequences. Our technology also can be used to inducibly express inhibitors of supposed targets, such as dominant negative mutants or gene-specific DNA binding proteins for validation purposes.

A major application of the ARGENT transcription system, based on its tight regulation of genes, is the creation of inducible knockout mice. Knockout mice in which both copies of a gene of interest have been eliminated are extremely useful for assessing the role of the deleted gene in disease. Unfortunately, many knockout mice are not viable, because expression of the gene is required during embryonic development. In addition, complete knockouts often suffer from changes in the expression of other genes that may compromise interpretation of the resulting physical, biochemical, and physiologic makeup of the animal, or its phenotype. We believe that both of these problems can be solved by generating inducible knockouts in which genes are eliminated in the adult mouse by administering a small molecule and using the ARGENT technology.

Product Validation – Gene Transcription: The human genome sequence provides a rich source of potential proteins that are themselves drug candidates. In addition, advances in protein and antibody engineering are increasingly yielding large numbers of novel proteins that have therapeutic potential. Validating these molecules as products required extensive efforts in protein manufacturing, purification, scale-up and formulation. Inducible expression in animals can be used to validate therapeutic protein product candidates, in particular, secreted proteins and monoclonal antibodies, without the need to express and purify large amounts of recombinant protein. Since the level of protein delivered can be precisely controlled, this approach offers an effective way to characterize both the therapeutic and safety profiles of protein product candidates.

Our ARGENT and RPD technologies provide complementary alternatives to this approach to product validation. The use of our ARGENT gene regulation technology allows a protein to be delivered over the course of several days, whereas the alternative approach based on our RPD technology is particularly useful for generating rapid bursts of protein expression. The use of our ARGENT and RPD technologies to validate

protein therapeutic candidates has particular value when a large number of related proteins need to be evaluated, as studies can be done on a high-throughput basis.

Drug Screening: The ability to induce a specific signaling, gene activation or protein secretion event in a cell allows the configuration of "targeted" cell-based screens in which the unique cell context of interest for drug design can be chemically induced. These screens very specifically search for drugs affecting cells in which a particular signal transduction or gene activation event has occurred. The tight regulation afforded by our ARGENT and RPD technologies means that highly specific screens can be set up, using the uninduced cell line as a stringent counter-screen. Because the cellular event of interest can be induced chemically, the induction step can be configured into high-throughput screens.

Commercialization and Manufacturing

Because of the broad potential applications of our platform technologies, we intend to develop and commercialize products both on our own and through corporate partners. We plan to commercialize certain of our lead product candidates in selected markets and/or for selected indications. When advantageous, we intend to rely on strategic partners for manufacturing and marketing certain of our product candidates. We believe our small-molecule drugs can be produced in commercial quantities through conventional synthetic and natural product fermentation techniques. We expect to access manufacturing methods for viral and/or non-viral vectors from potential partners and licensors. Our ability to obtain these vectors in amounts sufficient to conduct clinical trials of our gene and cell therapy product candidates and to commercialize such products may affect our commercial success. We expect to manufacture, package, label, and distribute our product candidates on our own in some cases and to establish arrangements with third parties to perform some or all of these functions in other cases.

Intellectual Property

Patents and other intellectual property rights are essential to our business. We file patent applications to protect our technology, inventions and improvements to our inventions that are considered important to the development of our business.

We have 97 patents and patent applications filed in the United States, of which 43 are owned or exclusively licensed by us and 54 are owned or exclusively licensed by our subsidiary, ARIAD Gene Therapeutics, Inc. ("AGTI"). In addition, we have filed foreign counterparts, as appropriate. We also have several nonexclusive technology licenses from certain institutions in support of our research programs. We anticipate that we will continue to seek licenses from universities and others where applicable technology complements our research and development efforts.

Many of the patents and patent applications in our portfolio cover our gene regulation technology platform. These patents and pending applications cover regulatory technologies, specialized variants of the technologies, critical nucleic acid components, small-molecule drugs, the identification and use of dimerizer hormone mimetics, and various uses of the technologies in health care and drug discovery. Patents issued to date include 23 patents covering our gene regulation technologies. These patents issued in the United States beginning in November 1998 and should provide proprietary protection for our gene and cell therapy product candidates until at least 2015. We hope to obtain additional patents in the ensuing years based on pending applications.

Our patent portfolio also covers research tools and methods used in our drug discovery programs, as well as multiple classes of small-molecule compounds discovered in those programs. We also have a number of issued patents and pending applications relating to the gene regulator proteins, NF-κB and NF-AT, and their use in drug discovery.

We also rely on unpatented trade secrets and proprietary know-how. However, trade secrets are difficult to protect. We enter into confidentiality agreements with our employees, consultants and collaborators. In addition, we believe that certain technologies utilized in our research and development programs are in the

public domain. Accordingly, we do not believe that patent or other protection is available for these technologies. If a third party were to obtain patent or other proprietary protection for any of these technologies, we may be required to challenge such protections, obtain a license for such technologies or terminate or modify our programs that rely on such technologies.

Research and Development Collaboration

In 2000, we established a partnership with NsGene A/S of Copenhagen, Denmark to jointly evaluate and develop regulated gene and cell therapy products for neurodegenerative diseases. Based on the results of our initial studies, we will jointly determine further clinical development and commercialization plans.

Our Board of Scientific and Medical Advisors

We have assembled a Board of Scientific and Medical Advisors that currently consists of experts in the fields of molecular and cellular biology, biochemistry, immunology, and organic, physical, and computational chemistry, and molecular medicine. Each advisor is engaged under a consulting agreement that requires the advisor to provide consulting services to us in our field of interest and not to disclose any of our confidential information. Our Board of Scientific and Medical Advisors is chaired by Stuart L. Schreiber, Morris Loeb Professor of Chemistry, Co-Director, Institute of Chemistry and Cell Biology and Scientific Co-Director, Center of Genomics Research at Harvard University and Investigator of the Howard Hughes Medical Institute.

Our Licenses

We and our subsidiary, AGTI, have entered into license agreements with various research institutions and universities pursuant to which we and/or AGTI are the licensee of certain technologies upon which some of our product candidates are based. A partial summary of certain of these licenses is presented below.

Licensor	**Licensee**	**Technology Area**
Stanford University and Harvard University	AGTI	Regulating cellular processes with small molecules
Massachusetts Institute of Technology	AGTI	Engineered DNA-binding proteins
Harvard University	AGTI	Synthetic gene activators
Mochida Pharmaceuticals, Ltd.	ARIAD	Fas cell-death gene
Science Park Raf. S.p.A	AGTI	Cell separation and vector production
University of Pennsylvania	ARIAD and AGTI	Regulated gene therapy
Cornell Research Foundation, Inc.	ARIAD	Three-dimensional structure of drug-binding domain
Johns Hopkins University, Memorial Sloan-Kettering Cancer Center	AGTI	Engineered drug-binding proteins
University of Washington	AGTI	Regulated stem cell therapy
Mt. Sinai Hospital, affiliate of University of Toronto	ARIAD	Src-related signaling domains for drug discovery
Massachusetts Institute of Technology, Whitehead Institute, and Harvard University	ARIAD	NF-κB pathway for drug discovery
Stanford University	ARIAD	NF-AT pathway for drug discovery

All of the licenses are exclusive except those with Mochida Pharmaceuticals, Ltd., Science Park Raf. S.p.A., and the University of Pennsylvania. We have agreed to pay royalties to our licensors on sales of certain products based on the licensed technologies, as well as, in some instances, milestone payments and patent filing and prosecution costs. The licenses also impose various milestone, commercialization, sublicensing, royalty as well as insurance and other obligations. Failure by us to comply with these requirements could result in the termination of the applicable agreement which could have a material adverse effect on our business, financial condition and results of operations.

Competition

The field of gene-based drug discovery is new and rapidly evolving, and we expect that it will continue to undergo significant technological change. We anticipate that we will experience intense competition from other companies in the gene therapy and genomics fields and those that are developing small-molecule drugs that target signal transduction pathways. We are aware of many early-stage and established companies, including major pharmaceutical and biotechnology firms, that are pursuing the development of gene-based drugs or are actively engaged in gene therapy.

Companies in the gene therapy field include Avigen, Inc., Biogen, Inc., Cell Genesys, Inc., GenVec, Inc., Genzyme Corp., Targeted Genetics Corp., TransGene S.A., and Valentis, Inc. However, we do not believe that any of these companies has started clinical development of regulated gene therapy products. We are aware of several companies that are developing specific products to treat GvHD, including Abgenix, Inc., AVAX, Inc., BioTransplant, Inc., Protein Design Labs, Inc. and Repligen Corp. We may also experience competition from companies that have acquired or may acquire technology from companies, universities, and other research institutions. As these companies develop their technologies, they may develop proprietary positions which may materially and adversely affect us.

In the area of signal transduction inhibitors, companies such as AstraZeneca plc, Biogen, Inc., Ligand Pharmaceuticals, Inc., Novartis Pharma AG, OSI Pharmaceuticals, Inc., Pharmacia, Inc., Tularik, Inc., and Vertex Pharmaceuticals, Inc. are developing drugs to treat human disease by regulating genes and inhibiting signal transduction pathways.

Government Regulation

The manufacturing and marketing of our products, if any, and our ongoing research and development activities are subject to extensive regulation by numerous governmental authorities in the United States and other countries. Any drug developed by us must undergo rigorous preclinical studies and clinical testing and an extensive regulatory approval process implemented by the FDA under the federal Food, Drug and Cosmetic Act prior to marketing in the United States. Satisfaction of such regulatory requirements, which includes demonstrating that the product is both safe and effective for its recommended conditions of use, typically takes several years or more depending upon the type, complexity and novelty of the product and requires the expenditure of substantial resources. Preclinical studies must be conducted in conformance with the FDA's good laboratory practice regulations. Before commencing clinical trials in the United States, we must submit to and receive clearance from the FDA of an Investigational New Drug Application, or IND. There can be no assurance that submission of an IND would result in FDA clearance to commence clinical trials. Clinical testing must meet requirements for institutional review board oversight, informed consent and good clinical practice and is subject to continuing FDA oversight. We have a limited history of conducting preclinical studies and the clinical trials necessary to obtain regulatory approval. Furthermore, we or the FDA may suspend clinical trials at any time if either party believes that the subjects participating in such trials are being exposed to unacceptable risks or if the FDA finds deficiencies in the conduct of the trials.

Before receiving FDA approval to market a product, we will have to demonstrate that the product is safe and effective in the patient population that will be treated. Data obtained from preclinical studies and clinical trials are susceptible to varying interpretations which could delay, limit or prevent regulatory clearances. In addition, delays or rejections may be encountered based upon additional government regulation from future

legislation or administrative action or changes in FDA policy during the period of product development, clinical trials and FDA regulatory review. Similar delays also may be encountered in foreign countries. There can be no assurance that even after such time and expenditures, regulatory approval will be obtained for any products developed by us, or, even if approval is obtained, the labeling for such products will not be required to contain limitations with respect to its condition of use, which could materially impact the marketability and profitability of the product. If regulatory approval of a product is granted, such approval will be limited to those disease states and conditions for which the product has been shown useful, as demonstrated by clinical trials. Furthermore, approval may entail ongoing requirements for postmarketing studies. Even if such regulatory approval is obtained, a marketed product, its manufacturer and its manufacturing facilities and procedures are subject to continual review and periodic inspections by the FDA. Discovery of previously unknown problems with a product, manufacturer manufacturing procedures or facility may result in restrictions on such product or manufacturer, including costly recalls, an injunction against continued manufacturing until the problems have been adequately addressed to the FDA's satisfaction or even withdrawal of the product from the market. There can be no assurance that any compound developed by us alone or in conjunction with others will prove to be safe and efficacious in clinical trials and will meet all of the applicable regulatory requirements needed to receive and maintain marketing approval. Additionally, the marketing, labeling and advertising for an approved product is subject to ongoing FDA scrutiny and the failure to adhere to applicable requirements can result in regulatory action which could have a material impact on the profitability of the product.

Outside the United States, our ability to market a product will be contingent upon receiving a marketing authorization from the appropriate regulatory authorities. The requirements governing the conduct of clinical trials, marketing authorization, pricing and reimbursement vary widely from country to country. At present, foreign marketing authorizations are applied for at a national level, although within the European Community certain registration procedures are available to companies wishing to market a product in more than one member state. If the regulatory authority is satisfied that adequate evidence of safety, quality and efficacy has been presented, a marketing authorization will be granted. This foreign regulatory approval process includes all of the risks associated with FDA clearance set forth above.

Our Employees

As of March 13**,** 2001, we had 55 full-time employees, 25 of whom hold post-graduate degrees, including 17 with a Ph.D. or M.D. Most of our employees are engaged directly in research and development. We have entered into confidentiality and noncompetition agreements with all of our employees. None of our employees are covered by a collective bargaining agreement, and we consider relations with our employees to be good.

Cautionary Statement Regarding Forward Looking Statements

Statements in this Annual Report on Form 10-K under the captions "Business" and "Management's Discussion and Analysis of Financial Condition and Results of Operations," as well as oral statements that may be made by us or by our officers, directors or employees, acting on our behalf, that are not historical fact constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that could cause our actual results to be materially different from the historical results or from any results expressed or implied by such forward-looking statements. Such factors include, among others, the following factors:

Risks Relating to Our Business

We may never succeed in developing marketable drugs or generating product revenues.

We are an early-stage company with no product revenues, and we may not succeed in producing pharmaceutical products for commercialization. We do not expect to have any products on the market for several years, if at all. Our main focus is primarily in conducting research and product development to

advance the complex and specialized technologies we are developing. We are exploring human diseases at the cellular level. We seek to discover which genes within cells malfunction to cause disease, which signals are triggered within cells during the disease process to cause these cells to respond abnormally, and which drugs can halt or reverse those activities within cells. We also seek to discover multiple regulated gene therapies and regulated cell therapies that can treat or prevent disease. As with all science, we face much trial and error, and we may fail at numerous stages along the way. If we are not successful in developing marketable products, we will not be profitable.

We may be unable to access vectors, or other gene transfer technologies that we will need to commercialize our gene and cell therapy product candidates.

We may not be able to access the vector technologies required to develop and commercialize our gene and cell therapy product candidates. We do not own gene delivery technologies and are reliant on our ability to enter into license agreements with appropriate academic institutions and/or gene therapy companies that can provide us with rights to the necessary technology and components of gene delivery systems. The inability to reach an appropriate agreement with such an entity on reasonable commercial terms could delay or prevent the preclinical evaluation, clinical testing, and/or commercialization of our product candidates. Since some of our potential products are based on gene therapy, our inability to access gene transfer technology would have significant adverse effects on a significant portion of our product candidates. If we do not market our product candidates, we will never become profitable. In addition, the intellectual property landscape covering gene transfer technologies is currently uncertain and fragmented. Accordingly, if we select one partner as a source for selected intellectual property rights, we may find that we have not licensed sufficient rights to be able to commercialize our products, or we may be forced to acquire additional rights or discontinue marketing our product candidates unexpectedly.

We have incurred significant losses to date and may never be profitable.

We have incurred significant operating losses in each year since our formation in 1991 as a Delaware corporation through 2000 and have an accumulated deficit of approximately $89 million from our operations through December 31, 2000. It is likely that significant operating losses will continue for the foreseeable future. We currently have no product revenues or commitments for future research revenues, may never be able to earn such revenue, and may never have profitable operations, even if we are able to commercialize any of our product candidates or enter into additional research agreements. If our losses continue and we are unable to successfully develop, commercialize, manufacture and market product candidates, we may never have product revenues or achieve profitability. Losses have resulted principally from costs incurred in research and development of product candidates and from general and administrative costs associated with our operations.

Insufficient funding may jeopardize our research and development programs and may prevent commercialization of our products and technologies.

All of our operating revenue to date has been generated through collaborative research agreements that have expired or been terminated. Accordingly, we may not be able to secure the significant funding levels which are required to maintain and continue each of our research and development programs at the current levels or at levels that may be required in the future. We do not have any committed strategic alliance funding for the advancement of any of our programs. Although, we intend to seek additional funding from collaborations or public or private financings, these may not be available on terms acceptable to us, or at all. If we cannot secure adequate financing, we may be required to delay, scale back or eliminate one or more of our research and development programs or to enter into license arrangements with third parties to commercialize products or technologies that we would otherwise seek to develop ourselves.

Because we do not own all of the outstanding stock of our subsidiary, ARIAD Gene Therapeutics, Inc. ("AGTI"), we may not realize all of the potential future economic benefit from products developed based on technology licensed to or owned by our subsidiary.

Our subsidiary, AGTI, holds licenses from Harvard University, Stanford University, and other universities relating to ARGENT, a key technology in our regulated gene and cell therapy product development programs. Minority stockholders, including Harvard University, Stanford University and certain current and former members of our management, own slightly less than 20% of the issued and outstanding capital stock of AGTI. We do not currently have a license agreement with AGTI that provides us with rights to develop and commercialize products based on the licenses relating to ARGENT. In order to commercialize any product based on this technology, we will either license this technology on terms to be determined or commercialize these products directly through AGTI. The economic benefit to our stockholders from products we commercialize will be diluted by any royalties paid under a future license agreement, if any, with AGTI. The economic benefit to our stockholders from products, if any, AGTI may commercialize would be reduced in an amount related to the percentage owned by the minority stockholders of AGTI.

Alternatively, we may acquire all of the interests of the minority stockholders in AGTI for cash, shares of our common stock or other securities of ours, if any. If we acquire these minority interests for either form of consideration, it will result in dilution to our stockholders. The economic value of the minority stockholders' interest is difficult to quantify in the absence of a public market, and the market price of our publicly traded common stock may not accurately reflect its value. Accordingly, the market could change its perception of the value of this minority interest in our subsidiary at any time in reaction to our increased emphasis on these products, announcements regarding these products or for other reasons, any of which could result in a decline in our stock price. In addition, if we acquire the minority interest at a cost greater than the value attributed to them by the market, this also could result in a decline in our stock price. If we choose to acquire these interests through a short-form merger in which we do not solicit the consent of the minority stockholders of AGTI, we could become subject to an appraisal procedure, which would result in additional expense and diversion of management resources.

Because certain members of our management team and Board of Directors beneficially own a significant percentage of the capital stock of our subsidiary, AGTI, there may be conflicts of interest present in dealings between ARIAD and AGTI.

Four members of our management team and/or Board of Directors own or have the right to acquire up to approximately 6% of the outstanding capital stock of AGTI. These same individuals beneficially own approximately 8% of our outstanding common stock. As a result, the market may perceive conflicts of interest to exist in dealings between AGTI and us. AGTI is the exclusive licensee of the ARGENT intellectual property from Harvard University and Stanford University and, in the event that we commercialize products based on ARGENT, we will have to negotiate the terms of a license agreement with AGTI or acquire all of the capital stock of AGTI. Because of the apparent conflicts of interest, the market may be more inclined to perceive the terms of any transaction between us and AGTI as being unfair to us.

We have no experience in manufacturing any of our product candidates on a commercial basis, which raises uncertainty as to our ability to commercialize our product candidates.

We have no experience in, and currently lack the resources and capability to, manufacture any of our product candidates on a commercial basis. Our ability to conduct clinical trials and commercialize our product candidates will depend, in part, on our ability to manufacture our products on a large scale, either directly or through third parties, at a competitive cost and in accordance with FDA and other regulatory requirements. We currently do not have the capacity to manufacture drugs in large quantities. We depend on third-party manufacturers or collaborative partners for the production of our product candidates for preclinical research and clinical trials and intend to use third-party manufacturers to produce any products we may eventually commercialize. If we are not able to obtain contract manufacturing on commercially reasonable terms, we may not be able to conduct or complete clinical trials or commercialize our product candidates, and we do not know whether we will be able to develop such capabilities.

If we are unable to establish sales, marketing and distribution capabilities or to enter into agreements with third parties to do so, we may be unable to successfully market and sell any products.

We currently have no sales, marketing or distribution capabilities. If we are unable to establish sales, marketing or distribution capabilities either by developing our own sales, marketing and distribution organization or by entering into agreements with others, we may be unable to successfully sell any products we are able to begin to commercialize. If we are unable to effectively sell our products, our ability to generate revenues will be harmed. We may not be able to hire, in a timely manner, the qualified sales and marketing personnel we need, if at all. In addition, we may not be able to enter into any marketing or distribution agreements on acceptable terms, if at all. If we cannot establish sales, marketing and distribution capabilities as we intend, either by developing our own capabilities or entering into agreements with third parties, sales of future products, if any, may be harmed.

If our product candidates are not accepted by physicians and insurers, we will not be successful.

Our success is dependent on acceptance of our product candidates. They may not achieve significant market acceptance among patients, physicians or third-party payors, even if we obtain necessary regulatory and reimbursement approvals. Failure to achieve significant market acceptance will harm our business. We believe that recommendations by physicians and health care payors will be essential for market acceptance of any product candidates. In the past, there has been concern regarding the potential safety and effectiveness of gene therapy products. Physicians and health care payors may conclude that any of our product candidates are not safe.

The loss of key members of our scientific and management staff could delay and may prevent the achievement of our research, development and business objectives

Our Chief Executive Officer, Harvey J. Berger, our Chief Patent Counsel, David Bernstein, and our Senior Vice President, Drug Development, John D. Iuliucci, and other key officers and members of our scientific staff responsible for areas such as clinical development, drug discovery, cell biology and genomics, structure-based drug design and protein engineering are important to our specialized scientific business. We also are dependent upon a few of our scientific advisors to assist in formulating our research and development strategy. The loss of, and failure to promptly replace, any one of this group could significantly delay and may prevent the achievement of our research, development and business objectives. While we have entered into employment agreements with all of our officers, they may not remain with us.

Competing technologies may render some or all of our programs or future products noncompetitive or obsolete.

Many well-known pharmaceutical, healthcare and biotechnology companies, academic and research institutions and government agencies, who have substantially greater capital, research and development capabilities and experience than us, are presently engaged in (1) developing products based on signal transduction, genomics and proteomics, structure-based drug design, and gene and cell therapy and (2) conducting research and development programs for the treatment of all the disease areas in which we are focused.

Some of these entities already have product candidates in clinical trials or in more advanced preclinical studies than we do. They may succeed in commercializing competitive products before us, which would give them a competitive advantage. Competing technologies may render some or all of our programs or future products noncompetitive or obsolete, and we may not be able to make the enhancements to our technology necessary to compete successfully with newly emerging technologies. If we are unable to compete in our chosen markets, we will not become profitable.

We may not be able to protect our intellectual proprietary rights.

We and our licensors have pending patent applications covering biochemical and cellular tests useful in drug discovery, new chemical compounds discovered in our drug discovery programs, certain components, configurations and uses of our ARGENT, RPD, and RGE systems and methods and materials for conducting genomics research. These patent applications may not issue as patents and may not issue in all countries in which we develop, manufacture or sell our products. In addition, patents issued to us or our licensors may be challenged and subsequently narrowed, invalidated or circumvented. In that event, such patents may not afford meaningful protection for our technologies or product candidates, which would materially impact our ability to develop and market them. Certain technologies utilized in our research and development programs are already in the public domain. Moreover, a number of our competitors have developed technologies, filed patent applications or obtained patents on technologies and compositions that are related to our business and may cover or conflict with our patent applications. Such conflicts could limit the scope of the patents that we may be able to obtain or may result in the denial of our patent applications. If a third party were to obtain intellectual proprietary protection for any of these technologies, we may be required to challenge such protections, terminate or modify our programs that rely on such technologies or obtain licenses for use of these technologies.

We may be unable to develop or commercialize our product candidates, if we are unable to obtain or maintain certain licenses.

We have entered into license agreements for some of our technologies, either directly or through AGTI. We are currently attempting to obtain additional licenses for technology useful to our programs. Our inability to obtain any one or more of these licenses, on commercially reasonable terms, or at all, or to circumvent the need for any such license, could cause significant delays and cost increases and materially affect our ability to develop and commercialize our product candidates. We also use gene sequences or proteins encoded by those sequences and other biological materials in each of our research programs which are, or may become, patented by others and to which we would be required to obtain licenses in order to develop or market our product candidates. Some of our programs, including our regulated gene therapy program, may require the use of multiple proprietary technologies, especially vectors and therapeutic genes. Obtaining licenses for these technologies may require us to make cumulative royalty payments or other payments to several third parties, potentially reducing amounts paid to us or making the cost of our products commercially prohibitive.

Some of our licenses obligate us to exercise diligence in pursuing the development of product candidates, to make specified milestone payments, and to pay royalties. In some instances, we are responsible for the costs of filing and prosecuting patent applications. These licenses generally expire upon the earlier of a fixed term of years after the date of the license or the expiration of the applicable patents, but each license is also terminable by the other party upon default by us of our obligations. Our inability or failure to meet our diligence requirements or make any payments required under these licenses would result in a reversion to the licensor of the rights granted which, with respect to the licenses where we have obtained exclusive rights, would materially and adversely affect our ability to develop and market products based on our licensed technologies.

If we develop a product for commercial use, a subsequent product liability-related claim or recall could have an adverse effect on our business.

Our business exposes us to potential product liability risks inherent in the testing, manufacturing and marketing of pharmaceutical products, and we may not be able to avoid significant product liability exposure. A product liability-related claim or recall could be detrimental to our business. In addition, except for insurance covering product use in our clinical trials, we do not currently have any product liability insurance, and we may not be able to obtain or maintain such insurance on acceptable terms, or we may not be able to obtain any insurance to provide adequate coverage against potential liabilities. Our inability to obtain sufficient insurance coverage at an acceptable cost or otherwise to protect against potential product liability claims could prevent or limit the commercialization of any products we develop.

Risks Relating to Governmental Approvals

We have limited experience in conducting clinical trials, which may cause delays in commencing and completing clinical trials of our product candidates.

Clinical trials must meet FDA and foreign regulatory requirements. We have limited experience in conducting the preclinical studies and clinical trials necessary to obtain regulatory approval. Consequently, we may encounter problems in clinical trials that may cause us or the FDA or foreign regulatory agencies to delay, suspend or terminate these trials. If the clinical trials of our products fail, we will not be able to market our product candidates. Problems we may encounter include the chance that we may not be able to conduct clinical trials at preferred sites, obtain sufficient test subjects or begin or successfully complete clinical trials in a timely fashion, if at all. Furthermore, we, the FDA or foreign regulatory agencies may suspend clinical trials at any time if we or they believe the subjects participating in the trials are being exposed to unacceptable health risks or if we or they find deficiencies in the clinical trial process or conduct of the investigation. The FDA and foreign regulatory agencies could also require additional clinical trials, which would result in increased costs and significant development delays. Our failure to adequately demonstrate the safety and effectiveness of a therapeutic drug under development could delay or prevent regulatory approval of the product candidate and could have a material adverse effect on our business.

Adverse medical events and/or a hostile regulatory and political environment could delay or prevent the commercialization of our gene therapy product candidates.

The death in 1999 of a patient in a clinical trial of adenovirus-mediated gene therapy has heightened awareness of the potential risks associated with early-stage clinical evaluation of gene therapies. In addition, several deaths in other gene therapy clinical trials have been publicized. While not apparently caused by the gene transfer procedure, these deaths were not promptly reported to the FDA. As a result of these events, the field of gene therapy has come under greater scrutiny from regulatory authorities, politicians and the public at large. Although we do not anticipate using adenoviral vectors in our product candidates, the new environment of greater scrutiny for gene therapy may significantly delay the development of our gene and cell therapy product candidates. We may be required to conduct more extensive preclinical testing in order to perform clinical trials on our product candidates. Regulatory approval of our gene and cell therapy product candidates may require more extensive clinical studies than anticipated, which could delay commercialization of our gene and cell therapy product candidates. Further adverse events in gene therapy trials and/or decisions of regulatory and other governmental agencies could result in a moratorium or even termination of all clinical studies on gene therapy at some or all medical centers in the United States or other countries. Such events could seriously jeopardize the development and commercialization of our gene and cell therapy product candidates. In addition, should our product candidates be approved for marketing, adverse public perception of the gene therapy field may limit our ability successfully to market any gene and cell therapy products.

We may not be able to obtain government regulatory approval for our product candidates prior to marketing.

To date, we have not submitted a marketing application for any product candidate to the FDA or any foreign regulatory agency, and none of our product candidates have been approved for commercialization in the United States or elsewhere. Any product candidate ready for commercialization would be subject to an extensive and lengthy governmental regulatory approval process in the United States and in other countries. We may not be able to obtain regulatory approval for any products we develop or even if approval is obtained, the labeling for such products may be required to bear limitations that could materially impact the marketability and profitability of the product involved. We have no history of conducting and managing the clinical testing necessary to obtain such regulatory approval. Satisfaction of these regulatory requirements, which includes satisfying the FDA and foreign regulatory authorities that the product is both safe and effective under its recommended conditions of use, typically takes several years or more depending upon the type, complexity and novelty of the product and requires the expenditure of substantial resources.

Furthermore, the regulatory requirements governing our potential products are uncertain. This uncertainty may result in excessive costs or extensive delays in the regulatory approval process, adding to the already lengthy review process. If regulatory approval of a product is granted, such approval will be limited to those disease states and conditions for which the product is proven useful, as demonstrated by clinical trials, and our products will be subject to ongoing regulatory reviews. Although we have been granted orphan drug designation by the FDA for AP1903, the small-molecule drug used in our GvHD cell therapy product candidate, this designation may be challenged by others or may prove to be of no practical benefit.

We will not be able to sell our product candidates, if we or our third-party manufacturers fail to comply with FDA manufacturing regulations.

Before we can begin to commercially manufacture our product candidates, we must either secure manufacturing in an approved manufacturing facility or obtain regulatory approval of our own manufacturing facility and process. In addition, manufacture of our product candidates must comply with the FDA's current Good Manufacturing Practices requirements, commonly known as cGMP. The cGMP requirements govern, among other things, quality control and documentation policies and procedures. We, or any third-party manufacturer of our product candidates, may not be able to comply with cGMP requirements, which would prevent us from selling such products. Material changes to the manufacturing processes of our products after approvals have been granted are also subject to review and approval by the FDA or other regulatory agencies.

Even if we bring products to market, we may be unable to effectively price our products or obtain adequate reimbursement for sales of our products, which would prevent our products from becoming profitable.

If we succeed in bringing our product candidates to the market, they may not be considered cost-effective, and reimbursement to the consumer may not be available or may not be sufficient to allow us to sell our products on a competitive basis. In both the United States and elsewhere, sales of medical products and treatments are dependent, in part, on the availability of reimbursement to the consumer from third-party payors, such as government and private insurance plans. Third-party payors are increasingly challenging the prices charged for pharmaceutical products and services. Our business is affected by the efforts of government and third-party payors to contain or reduce the cost of health care through various means. In the United States, there have been and will continue to be a number of federal and state proposals to implement government controls on pricing. In addition, the emphasis on managed care in the United States has increased and will continue to increase the pressure on the pricing of pharmaceutical products. We cannot predict whether any legislative or regulatory proposals will be adopted or the effect these proposals or managed care efforts may have on our business.

ITEM 2: PROPERTIES

We have leased approximately 100,000 square feet (approximately 52,000 square feet currently under sublease to third parties) of laboratory and office space at 26 Landsdowne Street, located in University Park at M.I.T., in Cambridge, Massachusetts. The lease is for a ten-year term ending in July of 2002, with two consecutive five-year renewal options. We believe that our currently leased facility will, in large part, be adequate for our research and development activities at least through the year 2004.

ITEM 3: LEGAL PROCEEDINGS

We were named as a defendant in a purported class action lawsuit commenced in June 1995 in the U.S. District Court for the Southern District of New York. The action named as defendants ARIAD Pharmaceuticals, Inc.; the underwriter of our initial public offering and a market maker in our stock, D. Blech & Co.; the managing director and sole shareholder of D. Blech & Co. and one of our former directors, David Blech; certain other of our directors, and the qualified independent underwriter for the initial public offering, Shoenberg Hieber, Inc. ("SHI").

Counsel for the plaintiff class, counsel for the Company and the named director defendants, excluding David Blech (the "Company Defendants"), and counsel for SHI have executed a stipulation of settlement in the action (the "Proposed Settlement"). The Proposed Settlement, in substance, contemplates a payment of $620,000 as consideration for plaintiffs' consent to entry of judgment dismissing the action with prejudice and barring "contribution-type" claims against the Company Defendants by non-settling parties. The Proposed Settlement further is subject to the Court's approval of that stipulation as fair, adequate and reasonable, and to entry of an appropriate judgment of dismissal in the action and in a related action entitled *In re: Blech Securities Litigation*, 94 Civ. 7696 (RWS), from which the Court previously ordered us dismissed as a defendant. The amount we agreed to contribute is not material.

On May 19, 1999, we filed suit in the Massachusetts Superior Court against Michael Z. Gilman, Ph.D. ("Dr. Gilman"), our former Chief Scientific Officer, seeking equitable relief for breach of his employment agreements in accepting a position as the research director of molecular biology at Biogen, Inc. ("Biogen"). The Superior Court issued a temporary injunction on May 19, 1999 restraining Dr. Gilman from using any of our confidential information in his new employment. On June 21, 1999, Dr. Gilman filed a counterclaim against us seeking an order awarding damages for breach of contract and barring us from enforcing any provisions of our employment agreements with Dr. Gilman. On May 26, 1999 Biogen filed a motion to intervene as a defendant in the action which the Superior Court granted on August 2, 1999. Discovery in the case has not been completed, and Summary Judgment Motions are not due to be filed until August, 2001. The ultimate outcome of the litigation with Dr. Gilman is not determinable at this time.

ITEM 4: SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

No matters were submitted to a vote of security holders during the quarter ended December 31, 2000.

PART II

ITEM 5: MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

Market Information

Our common stock has been traded on the Nasdaq National Market under the symbol "ARIA" since September 19, 1994. The following table sets forth the high and low sales prices of our common stock as quoted on the Nasdaq National Market for the periods indicated.

	High	Low
1999:		
First Quarter	$ 4 1/4	$ 1 5/16
Second Quarter	1 29/32	1 1/4
Third Quarter	1 3/8	23/32
Fourth Quarter	3	1/2
2000:		
First Quarter	$ 48 1/2	$ 2 1/2
Second Quarter	16 7/8	5 11/16
Third Quarter	15 7/8	8 5/16
Fourth Quarter	13	4 1/2

Holders

The approximate number of holders of record of our common stock as of March 15, 2001 was 400, and the approximate total number of holders of our common stock as of March 15, 2001 was 31,500.

Dividends

We have not declared or paid dividends on our common stock in the past and do not intend to declare or pay such dividends in the foreseeable future. Our current long-term debt agreement prohibits the payment of cash dividends. (See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources" and Note 5 of "Notes to Consolidated Financial Statements.")

ITEM 6: SELECTED FINANCIAL DATA

The selected financial data set forth below as of December 31, 2000, 1999, 1998, 1997 and 1996 and for the years then ended have been derived from the audited consolidated financial statements of the Company, of which the financial statements as of December 31, 2000 and 1999 and for the years ended December 31, 2000, 1999 and 1998 are included elsewhere in this Annual Report on Form 10-K and are qualified by reference to such financial statements. The information set forth below should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the audited consolidated financial statements, and the notes thereto, and other financial information included herein.

	Years Ended December 31,				
	2000	**1999**	**1998**	**1997**	**1996**
In thousands, except share and per share data					
Consolidated Statements of Operations Data:					
Revenues:					
Research revenue (principally related parties prior to 2000)	$ 128	$ 12,468	$ 12,143	$ 9,234	$ 10,304
Interest income	2,050	445	999	1,757	1,272
Total revenues	2,178	12,913	13,142	10,991	11,576
Operating expenses:					
Research and development *	12,467	28,844	35,515	20,287	15,254
General and administrative	3,318	3,938	2,634	2,925	2,229
Interest expense	225	522	481	410	269
Total operating expenses	16,010	33,304	38,630	23,622	17,752
Loss from operations	(13,832)	(20,391)	(25,488)	(12,631)	(6,176)
Gain on sale of Genomics Center		46,440			
Equity in net loss of Genomics Center		(1,493)	(660)		
Income (loss) before cumulative effect of change in accounting principle	(13,832)	24,556	(26,148)	(12,631)	(6,176)
Cumulative effect of change in accounting principle		(364)			
Net income (loss)	(13,832)	24,192	(26,148)	(12,631)	(6,176)
Repurchase and accretion costs attributable to redeemable convertible preferred stock		(6,435)	(36)		
Net income (loss) attributable to common stockholders	$ (13,832)	$ 17,757	$ (26,184)	$ (12,631)	$ (6,176)
Earnings (loss) per share:					
Per common share (basic):					
Income (loss) attributable to common stockholders Before cumulative effect of change in accounting principal	$ (.53)	$ .82	$ (1.25)	$ (.66)	$ (.33)
Cumulative effect of change in accounting principle		(.02)			
Net income (loss) — basic	$ (.53)	$ .80	$ (1.25)	$ (.66)	$ (.33)
Weighted average number of shares of common stock outstanding — basic	25,875,663	22,004,646	20,966,586	19,252,885	18,999,229
Per common share (diluted):					
Income (loss) before cumulative effect of change in accounting principle	$ (.53)	$ .71	$ (1.25)	$ (.66)	$ (.33)
Cumulative effect of change in accounting principle		(.01)			
Net income (loss) — diluted	$ (.53)	$ .70	$ (1.25)	$ (.66)	$ (.33)
Weighted average number of shares of common					

stock outstanding — diluted	25,875,633	34,448,015	20,966,586	19,252,885	18,999,229
* Includes non-cash stock based compensation	$ 142	$ 86	$ 73	$ 70	$ 27

	Years Ended December 31,				
	2000	**1999**	**1998**	**1997**	**1996**
In thousands					
Consolidated Balance Sheet Data:					
Cash, cash equivalents and marketable securities	$ 39,781	$ 28,320	$ 14,176	$ 29,359	$ 15,702
Working capital	36,866	22,731	5,806	16,539	11,902
Total assets	48,813	44,236	30,786	47,409	27,605
Long-term debt	3,700	1,900	3,295	5,156	1,473
Redeemable convertible preferred stock		8,070	5,036		
Accumulated deficit	(88,715)	(74,883)	(92,640)	(66,457)	(53,826)
Stockholders' equity	40,851	27,068	11,733	28,374	16,684

ITEM 7: MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis in conjunction with "Selected Consolidated Financial Data" and our consolidated financial statements and the related notes included elsewhere in this report.

Overview

We are engaged in developing innovative pharmaceutical product candidates based on small-molecule drugs and our proprietary gene regulation technology platforms. We integrate functional genomics and proteomics, protein engineering, and structure-based drug design in our drug discovery process. Our lead product candidates – treatments for osteoporosis, cancer, anemia, and graft-vs-host disease, one of the major limitations of allogeneic bone marrow transplantation – all work through small-molecule regulation of cellular processes. Our benchmark gene regulation technologies, ARGENT, RPD, and RGE, already are being used by approximately 400 academic investigators worldwide for scientific research. Commercial licenses to these technologies also are available to pharmaceutical and biotechnology companies for use in their drug discovery efforts and for collaborative development of novel products.

Aventis Relationship

From November 1995 through December 1999, substantially all of our research revenue and the majority of our research expenses were incurred in collaboration with Aventis Pharmaceuticals Inc., formerly known as Hoechst Marion Roussel, Inc., and its affiliates.

In November 1995, we entered into an agreement with Hoechst Marion Roussel, S.A. to collaborate on the discovery and development of drugs to treat osteoporosis and related bone diseases (the "Osteoporosis Agreement"), one of our signal transduction inhibitor programs. In March 1997, we entered into an agreement, which established a 50/50 joint venture, called the Hoechst-ARIAD Genomics Center, LLC, or the Genomics Center, with Aventis to pursue functional genomics with the goal of identifying genes that encode novel therapeutic proteins and small-molecule drug targets. We recognized aggregate revenue under these agreements of $12.5 million in 1999, $11.7 million in 1998 and $8.7 million in 1997.

On December 31, 1999, we completed the sale of our 50% interest in the Genomics Center to Aventis, and as a result, (1) we received $40.0 million in cash, (2) 3,004,436 shares of our series B preferred stock were returned to us, (3) Aventis forgave $1.9 million of long-term debt we owed to them, (4) we received drug candidates and related technologies resulting from the Osteoporosis Agreement, and (5) we received the right to use certain genomics and bioinformatics technologies developed by the Genomics Center. We recorded a net gain on the sale of $46.4 million. As a result of this sale, we did not receive any revenue from our relationship with Aventis after 1999, and we realized a reduction of revenue in fiscal 2000 of $12.4 million from 1999, which was more than offset by a reduction in research and development expenses of approximately $16.3 million, primarily associated with the Genomics Center.

General

Since our inception in 1991, we have devoted substantially all of our resources to our research and development programs. We have received no revenue from the sale of pharmaceutical products, and substantially all revenue to date has been received in connection with our relationship with Aventis. Except for the gain on the sale of the Genomics Center in December 1999, which resulted in net income for fiscal 1999, we have not been profitable since inception. We expect to incur substantial and increasing operating losses for the foreseeable future, primarily due to the expansion of our research and development programs, product manufacturing and clinical development. We expect that losses will fluctuate from quarter to quarter and that these fluctuations may be substantial. As of December 31, 2000, we had an accumulated deficit of $88.7 million.

Our business strategy balances potential near-term revenues with longer term product development opportunities. We plan to establish the commercial infrastructure to market certain of our current lead products for selected markets and/or indications, pursue collaborative partnerships for other markets and/or indications, license our platform technologies to selected biotechnology and pharmaceutical companies for use in their genomics, proteomics and drug discovery programs and partner these technologies for joint development of novel products, however, there can be no assurance that we will be successful in achieving our strategies and generating future revenue streams. As of January 1, 2001, we had no collaborative agreements that would generate revenue in 2001.

Results of Operations

Years Ended December 31, 2000 and 1999

Revenue

We recognized research revenue under our services agreements and collaborative research arrangements of $128,000 for the year ended December 31, 2000 compared to $12.5 million for the year ended December 31, 1999. This decrease of $12.4 million was due to the termination of our services agreements with the Genomics Center and the termination of the Osteoporosis Agreement as a result of the sale of our 50% ownership interest in the Genomics Center. As of January 1, 2001, we had no collaborative agreements that would generate revenue in 2001.

Interest income increased 361% to $2.1 million in 2000 from $445,000 in 1999 as a result of a higher level of invested funds.

Operating Expenses

Research and development expenses decreased 57% to $12.5 million in 2000 from $28.8 million in 1999. This decrease was primarily due to the termination of services to the Genomics Center. We expect our research and development expenses to increase over the next year as a result of increased product development activities for our lead product candidates. However, the amount of such increase in research and development spending will be determined, in part, by our ability to attract additional outside financing or to produce revenues through partnerships, licensing, joint ventures, or similar arrangements.

General and administrative expenses decreased 16% to $3.3 million in 2000 from $3.9 million in 1999. The decrease in 2000 was primarily due to lower professional and legal fees than those incurred in 1999, which included fees from a proposed private placement offering during 1999 that was abandoned.

Interest expense decreased 57% to $225,000 in 2000 from $522,000 in 1999. This decrease was primarily due to a lower level of debt outstanding in 2000 as a result of repayments on our borrowings.

Operating Results

We reported a loss from operations of $13.8 million in 2000 compared to a loss from operations of $20.4 million in 1999, a decrease in loss of $6.6 million or 32%. We reported a loss of $13.8 million in 2000 and reported income before cumulative effect of change in accounting principle of $24.6 million in 1999. After such cumulative effect, we reported net income of $24.2 million for 1999. Our results for 1999 included the gain on the sale of our 50% interest in the Genomics Center of $46.4 million. Although we earned taxable income in 1999 due to the gain on the sale of the Genomics Center, we were able to utilize net operating loss carryforwards to eliminate substantially all taxes due. We expect that operating losses will increase and be substantial for several more years as our product development activities expand, and these losses are expected to fluctuate as a result of differences in the timing and composition of revenue earned and expenses incurred.

On December 31, 1999 and January 14, 2000, we repurchased and retired all of our series C preferred stock and recorded a charge of $6.2 million in 1999 representing the premium paid on the repurchase, which has been deducted from net income in determining net income attributable to common stockholders. Accretion costs attributable to the series C preferred stock of $250,000 were also recognized in 1999. We reported a net loss attributable to common stockholders of $13.8 million in 2000 or $.53 per share (basic and diluted). We reported net income attributable to common stockholders of $17.8 million in 1999 or $.80 per share (basic) and $.70 per share (diluted).

Years Ended December 31, 1999 and 1998

Revenue

We recognized research revenue under our services agreements, collaborative research arrangements and government-sponsored grants of $12.5 million for the year ended December 31, 1999 compared to $12.1 million for the year ended December 31, 1998. The increase of $325,000 or 3% in 1999 compared to 1998 was due to an increase of $1.5 million in research revenue recognized in connection with our services agreements with the Genomics Center and the achievement of the second milestone of $2.0 million under the Osteoporosis Agreement, partially offset by a reduction of $3.1 million in the amortization of deferred revenue recognized in the prior year relating to the Osteoporosis Agreement and a decrease of $114,000 in government-sponsored research grant revenue recognized in the prior year.

Interest income decreased 55% to $445,000 in 1999 from $999,000 in 1998 as a result of a lower level of invested funds and a realized loss on the sale of marketable securities of $70,000 recorded in 1999.

Operating Expenses

Research and development expenses decreased 19% to $28.8 million in 1999 from $35.5 million in 1998. This decrease was primarily due to decreased manufacturing development and other preclinical development costs from the levels that were incurred in 1998, partially offset by increased research services provided to the Genomics Center under our services agreements in 1999.

General and administrative expenses increased 50% to $3.9 million in 1999 from $2.6 million in 1998. This increase was primarily due to increased professional and legal services incurred in connection with litigation, as well as a proposed private placement that was not undertaken.

Accounting Change

We adopted Statement of Position, or SOP 98-5, Reporting the Cost of Start-Up Activities, effective January 1, 1999 and recorded a charge of $364,000 as a cumulative effect of change in accounting principle.

Operating Results

We reported a loss from operations of $20.4 million in 1999 compared to a loss from operations of $25.5 million in 1998, a decrease in loss of $5.1 million or 20%. We reported income before cumulative effect of change in accounting principle of $24.6 million in 1999 and a loss before cumulative effect of change in accounting principle of $26.1 million in 1998. After such cumulative effect, we reported net income of $24.2 million for 1999. Our results for 1999 include a gain on the sale of our 50% interest in the Genomics Center of $46.4 million. On December 31, 1999 and January 14, 2000, we repurchased and retired all of our series C preferred stock and recorded a charge of $6.2 million in 1999 representing the premium paid on the repurchase, which has been deducted from net income in determining net income attributable to common stockholders. Accretion costs attributable to the series C preferred stock of $250,000 and $36,000 were also recognized in 1999 and 1998, respectively. We reported net income attributable to common stockholders of $17.8 million in 1999 or $.80 per share (basic) and $.70 per share (diluted). We reported a net loss attributable to common stockholders of $26.2 million in 1998 or $1.25 per share (basic and diluted).

Selected Quarterly Financial Data:

Summarized quarterly financial data is as follows:

	Fiscal 2000 Quarters			
	First	**Second**	**Third**	**Fourth**
In thousands, except per share amounts				
Total revenues	$ 415	$ 470	$ 664	$ 629
Loss from operations	(3,522)	(3,190)	(3,287)	(3,833)
Net income (loss)	(3,522)	(3,190)	(3,287)	(3,833)
Diluted income (loss) per share:				
Net loss	$ (.15)	$ (.12)	$ (.12)	$ (.14)

	Fiscal 1999 Quarters			
	First	**Second**	**Third**	**Fourth**
Total revenues	$ 4,756	$ 2,867	$ 2,602	$ 2,688
Loss from operations	(4,591)	(5,931)	(5,350)	(4,519)
Net income (loss) before cumulative effect of change in accounting principle	(4,929)	(6,361)	(5,727)	41,573
Net income (loss)	(4,991)	(6,423)	(5,790)	34,961
Diluted income (loss) per share:				
Income (loss) before cumulative effect of change in accounting principle	$ (.22)	$ (.29)	$ (.26)	$ 1.49
Cumulative effect of change in accounting principle	(.01)			
Net income (loss)	$ (.23)	$ (.29)	$ (.26)	$ 1.49

The fourth quarter of 1999 included a $46.4 million ($1.35 per share) gain on the sale of our 50% interest in the Genomics Center.

Liquidity and Capital Resources

We have financed our operations and investments primarily through the private placement and public offering of our securities, including the sale of series C preferred stock to investors and the sale of series B preferred stock to Aventis Pharmaceuticals Inc., supplemented by the issuance of long-term debt, operating and capital lease transactions, interest income, government-sponsored research grants, research revenue under the Osteoporosis Agreement, research revenue under the terms of our services agreements with the Genomics Center, and, in December 1999, the sale to Aventis of our 50% interest in the Genomics Center.

At December 31, 2000, we had cash, cash equivalents and marketable securities totaling $39.8 million and working capital of $36.9 million compared to cash and cash equivalents totaling $28.3 million and working capital of $22.7 million at December 31, 1999 exclusive of $6.9 million of cash, which was subsequently expended on January 14, 2000, to repurchase the remaining series C preferred stock.

The primary uses of cash during the year ended December 31, 2000 were $15.1 million to finance our operations and working capital requirements, $27.2 million to acquire marketable securities, $447,000 to purchase laboratory equipment, $1.2 million to repay long-term debt and $1.2 million to acquire intellectual property.

The primary sources of funds during the year ended December 31, 2000 were $11.6 million from the exercise of our publicly traded warrants, $3.0 million of new borrowings as a result of an extension and modification of our existing bank loan, $9.7 million from the sale of common stock under the terms of an equity financing facility and a private placement of securities, and $5.0 million from the sale of common stock from the exercise of stock options and purchases under the terms of the stock option and purchase plans.

Prior to 2000, we had issued 2,125,225 publicly traded warrants, each of which entitled its holder to purchase one share of our common stock at an exercise price of $8.40 per share. During the year 2000, we received proceeds of $11.6 million from the exercise of 1,389,498 warrants. Of the remaining 735,727 warrants, 680,215 warrants were redeemed at a cost of $34,000, and 55,512 expired on April 26, 2000.

On June 27, 2000, we entered into an Equity Financing Facility (the "Equity Facility") with Acqua Wellington North American Equities Fund, Ltd. ("Acqua Wellington"). Under the terms of the Equity Facility, at our option, we may from time to time sell up to an aggregate of $75.0 million of our common stock to Acqua Wellington over an 18 month period expiring in December, 2001. We agreed to issue and sell the shares to Acqua Wellington at a per share price equal to the daily volume weighted average price of our common stock on each date during a specified period during which the shares are to be purchased, less a discount of between 3.5% and 6.0%, or under certain circumstances, less a discount mutually agreed to by the parties. The discount is determined based on the threshold price we establish for the applicable period.

We have substantial fixed commitments under various research and licensing agreements, consulting and employment agreements, lease agreements and long-term debt instruments. These fixed commitments currently aggregate in excess of $ 4.4 million per year and may increase. We will require substantial additional funding for our research and development programs, including preclinical development and clinical trials, for operating expenses, for the pursuit of regulatory approvals and for establishing manufacturing, marketing and sales capabilities. Adequate funds for these purposes, whether obtained through financial markets or collaborative or other arrangements with collaborative partners, or from other sources, may not be available when needed or on terms acceptable to us.

Based on the historical spending levels to support our operations, our available funds will be adequate to satisfy our capital and operating requirements for the next two years. However, there can be no assurance that changes in our research and development plans or other future events affecting our revenues or operating expenses will not result in the earlier depletion of our funds.

At December 31, 2000, we had available for federal tax reporting purposes net operating loss carryforwards of approximately $91.4 million that expire commencing in 2009. We also had federal research and development tax credit carryovers of approximately $5.5 million that expire commencing in 2006. The utilization of both the net operating loss carryforwards and tax credits is subject to certain limitations under federal tax laws.

New Accounting Pronouncements

In June 1998, the Financial Accounting Standards Board issued SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities*. The new standard, which must be adopted on January 1, 2001, requires that all companies record derivatives on the balance sheet as assets or liabilities, measured at fair value. Gains or losses resulting from changes in the values of those derivatives would be accounted for depending on the use of the derivative and whether it qualifies for hedge accounting. The adoption of this standard on January 1, 2001 had no impact on our financial position or results of operations.

In December 1999, the Securities and Exchange Commission ("SEC") issued Staff Accounting Bulletin 101, *Revenue Recognition in Financial Statements* ("SAB 101"), which provides guidance related to revenue recognition based on interpretations and practices followed by the SEC. SAB 101 was effective in the quarter ended December 31, 2000 and requires companies to report any changes in revenue recognition as a cumulative effect of a change in accounting principle at the time of implementation in accordance with

Accounting Principles Board Opinion No. 20, “Accounting Changes”. We have adopted this accounting standard as of December 31, 2000, which had no impact on our consolidated financial statements.

ITEM 7A: QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We maintain an investment portfolio in accordance with our investment policy to preserve principal, maintain proper liquidity to meet operating needs and maximize yields. Our investment policy specifies credit quality standards for our investments and limits the amount of credit exposure to any single issue, issuer or type of investment.

We invest cash balances in excess of operating requirements in short-term securities, generally with maturities of 90 days or less. Our marketable securities generally consist of corporate debt and U.S. Government securities primarily with maturities of one year or less, but generally less than six months. These securities are classified as available-for-sale. Available-for-sale securities are recorded on the balance sheet at fair market value with unrealized gains or losses reported as a separate component of stockholders’ equity (accumulated other comprehensive loss). Gains and losses on marketable security transactions are reported on the specific-identification method. Interest income is recognized when earned. A decline in the market value of any available-for-sale security below cost that is deemed other than temporary results in a charge to earnings and establishes a new cost basis for the security. These investments are sensitive to interest rate risk. We believe that the effect, if any, of reasonable possible near-term changes in the interest rates on its financial position, results of operations and cash flows would not be material due to the short-term nature of these investments.

At December 31, 2000, we have a bank term note which bears interest at prime plus 1%. This note is sensitive to interest rate risk. In the event of a hypothetical 10% increase in the prime rate (95 basis points), we would incur approximately $41,000 of additional interest expense per year.

ITEM 8: FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Independent Auditors' Report

The Board of Directors and Stockholders of
ARIAD Pharmaceuticals, Inc.:

We have audited the accompanying consolidated balance sheets of ARIAD Pharmaceuticals, Inc. and its subsidiaries (the "Company") as of December 31, 2000 and 1999, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2000. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of ARIAD Pharmaceuticals, Inc. and its subsidiaries as of December 31, 2000 and 1999, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2000, in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note 1 to the financial statements, in 1999 the Company changed its method of accounting for start-up activities.

/s/DELOITTE & TOUCHE LLP

Boston, Massachusetts
January 26, 2001

ARIAD PHARMACEUTICALS, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

	Notes	December 31, 2000	December 31, 1999
In thousands, except share and per share data			
ASSETS			
Current assets:			
Cash and cash equivalents	1	$ 12,543	$ 28,320
Marketable securities	1,2	27,238	
Inventory and other current assets	1	1,347	1,609
Total current assets		41,128	29,929
Property and equipment:	1,5,6		
Leasehold improvements		12,606	12,567
Equipment and furniture		4,821	4,413
Total		17,427	16,980
Less accumulated depreciation and amortization		14,914	13,646
Property and equipment, net		2,513	3,334
Intangible and other assets, net	1,6	5,172	10,973
Total assets		$ 48,813	$ 44,236
LIABILITIES AND STOCKHOLDERS' EQUITY			
Current liabilities:			
Accounts payable		$ 1,434	$ 2,276
Current portion of long-term debt	5	1,200	1,200
Accrued liabilities – deferred compensation arrangements		299	136
Accrued liabilities – all other		1,329	3,586
Total current liabilities		4,262	7,198
Long-term debt	5	3,700	1,900
Commitments and contingent liabilities	6,10		
Redeemable convertible preferred stock	7		8,070
Stockholders' equity:	4,7,8		
Preferred stock, authorized, 10,000,000 shares, none issued and outstanding			
Common stock, $.001 par value, authorized, 60,000,000 shares, issued and outstanding, 27,292,138 shares in 2000 and 22,031,888 shares in 1999		27	22
Additional paid-in capital		129,761	101,929
Deferred compensation		(217)	
Accumulated other comprehensive loss	2	(5)	
Accumulated deficit		(88,715)	(74,883)
Total stockholders' equity		40,851	27,068
Total liabilities and stockholders' equity		$ 48,813	$ 44,236

See notes to consolidated financial statements.

ARIAD PHARMACEUTICALS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

In thousands, except share and per share data	Notes	Years Ended December 31, 2000	1999	1998
Revenues:				
Research revenue (principally related parties in 1999 and 1998)	1,3,4	$ 128	$ 12,468	$ 12,143
Interest income	2	2,050	445	999
Total revenues		2,178	12,913	13,142
Operating expenses:				
Research and development *	4	12,467	28,844	35,515
General and administrative		3,318	3,938	2,634
Interest expense	5	225	522	481
Total operating expenses		16,010	33,304	38,630
Loss from operations		(13,832)	(20,391)	(25,488)
Gain on sale of Genomics Center	4		46,440	
Equity in net loss of Genomics Center	1,4		(1,493)	(660)
Income (loss) before cumulative effect of change in accounting principle	1	(13,832)	24,556	(26,148)
Cumulative effect of change in accounting principle			(364)	
Net income (loss)		(13,832)	24,192	(26,148)
Repurchase and accretion costs attributable to redeemable convertible preferred stock	7		(6,435)	(36)
Net income (loss) attributable to common stockholders		$ (13,832)	$ 17,757	$ (26,184)
Earnings (loss) per share:				
Per common share (basic):	1			
Income (loss) attributable to common stockholders before cumulative effect of change in accounting principle		$ (.53)	$ .82	$ (1.25)
Cumulative effect of change in accounting principle	1		(.02)	
Net income (loss) —basic		$ (.53)	$ .80	$ (1.25)
Weighted average number of shares of common stock outstanding – basic		25,875,663	22,004,646	20,966,586
Per common share (diluted):	1			
Income (loss) before cumulative effect of change in accounting principle		$ (.53)	$ .71	$ (1.25)
Cumulative effect of change in accounting principle	1		(.01)	
Net income (loss) —diluted		$ (.53)	$ .70	$ (1.25)
Weighted average number of shares of common stock outstanding – diluted		25,875,663	34,448,015	20,966,586
* Includes non-cash stock-based compensation		$ 142	$ 86	$ 73

See notes to consolidated financial statements.

ARIAD PHARMACEUTICALS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,		
	2000	**1999**	**1998**
In thousands			
Cash flows from operating activities:			
Net income (loss)	$(13,832)	$ 24,192	$(26,148)
Adjustments to reconcile net income (loss) to net cash used in operating activities:			
Depreciation and amortization	1,675	3,682	3,469
Stock-based compensation to consultants	142	86	73
Gain on sale of the Genomics Center		(46,440)	
Increase (decrease) from:			
Deferred revenue			(3,078)
Inventory and other	262	584	(1,260)
Due from Genomics Center		333	(333)
Other assets	(408)	72	53
Accounts payable	(842)	(1,046)	23
Accrued liabilities – deferred compensation arrangements	163	102	46
Accrued liabilities – all other	(2,232)	(152)	(853)
Advance from Genomics Center	(26)	(3,137)	660
Net cash used in operating activities	(15,098)	(21,724)	(27,348)
Cash flows from investing activities:			
Proceeds from disposition of investment in Genomics Center		40,000	
Acquisitions of marketable securities	(42,965)	(211)	(14,846)
Proceeds from sales and maturities of marketable securities	15,805	7,806	22,572
Investment in Genomics Center		(6,261)	(6,237)
Return of investment in Genomics Center		7,960	5,715
Investment in property and equipment, net	(447)	(677)	(1,674)
Acquisition of intangible and other assets	(1,205)	(710)	(759)
Net cash provided by (used in) investing activities	(28,812)	47,907	4,771

See notes to consolidated financial statements.

(Continued)

ARIAD PHARMACEUTICALS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

In thousands	Years Ended December 31, 2000	1999	1998
Cash flows from financing activities:			
Proceeds from issuance of series B convertible preferred stock		$ 5,747	
Proceeds from related party long-term debt		1,801	
Proceeds from issuance of redeemable convertible preferred stock			$ 5,000
Repurchase of redeemable convertible preferred stock		(10,325)	
Proceeds from borrowings	$ 3,000		
Repayment of borrowings	(1,200)	(2,056)	(1,817)
Proceeds from exercise of warrants, net	11,637		
Proceeds from sale/leaseback of equipment, net		309	2,580
Proceeds from issuance of common stock under equity facility, net of issuance costs	9,743		9,226
Proceeds from issuance of stock pursuant to stock option and purchase plans	4,953	159	231
Net cash provided by (used in) financing activities	28,133	(4,365)	15,220
Net increase (decrease) in cash and equivalents	(15,777)	21,818	(7,357)
Cash and equivalents, beginning of year	28,320	6,502	13,859
Cash and equivalents, end of year	$ 12,543	$ 28,320	$ 6,502

(Concluded)

See notes to consolidated financial statements.

ARIAD PHARMACEUTICALS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

For the Years Ended December 31, 1998, 1999 and 2000

	Notes	Series B Convertible Preferred Stock Shares	Amount	Common Stock Shares	Amount	Additional Paid-in Capital
In thousands, except share data Balance, January 1, 1998		2,526,316	$ 25	19,308,605	$ 19	$ 94,833
Private placement of common stock	7,8			2,537,500	3	9,224
Issuance of shares pursuant to stock option and purchase plans	8			92,649		231
Stock-based compensation to consultants	1					73
Accretion of preferred dividends						
Comprehensive loss:						
Net loss						
Other comprehensive income -	1					
Unrealized gains on marketable securities	2					
Comprehensive loss						
Balance, December 31, 1998		2,526,316	25	21,938,754	22	104,361
Additional issuance of Series B Convertible Preferred Stock	4,7	478,120	5			5,742
Issuance of shares pursuant to stock option and purchase plans	8			93,134		159
Stock-based compensation to consultants	1					86
Repurchase and accretion costs attributable to series C preferred stock	1,7					
Redemption on sale of Genomics Center	4,7	(3,004,436)	(30)			(8,420)
Comprehensive income (loss):						
Net income						
Other comprehensive income -	1					
Unrealized gains on marketable securities	2					
Comprehensive income						
Balance, December 31, 1999		0	0	22,031,888	22	101,928
Issuance of common stock, series C settlement	7			1,078,038	1	1,144
Issuance of common stock under equity facility, net of issuance costs	7			857,024	1	9,742
Exercise of warrants	7			1,389,498	1	11,636
Issuance of shares pursuant to stock option and purchase plans	8			1,935,690	2	4,952
Stock-based compensation to consultants	1					359
Amortization of stock-based compensation	1					
Comprehensive loss:						
Net loss						
Other comprehensive income -	1					
Unrealized loss on marketable securities	2					
Comprehensive loss						
Balance, December 31, 2000		0	$ 0	27,292,138	$ 27	$ 129,761

[Additional columns below]

[Continued from above table, first column(s) repeated]

In thousands, except share data	Deferred Compensation	Accumulated Other Comprehensive Loss	Accumulated Deficit	Stockholders' Equity
Balance, January 1, 1998	$ 0	$ (47)	$ (66,456)	$ 28,374
Private placement of common stock				9,227
Issuance of shares pursuant to stock option and purchase plans				231
Stock-based compensation to consultants				73
Accretion of preferred dividends			(36)	(36)
Comprehensive loss:				
Net loss			(26,148)	(26,148)
Other comprehensive income -				
Unrealized gains on marketable securities		13		13
Comprehensive loss				(26,135)
Balance, December 31, 1998	0	(34)	(92,640)	11,734
Additional issuance of Series B Convertible Preferred Stock				5,747
Issuance of shares pursuant to stock option and purchase plans				159
Stock-based compensation to consultants				86
Repurchase and accretion costs attributable to series C preferred stock			(6,435)	(6,435)
Redemption on sale of Genomics Center				(8,450)
Comprehensive income (loss):				
Net income			24,192	24,192
Other comprehensive income -				
Unrealized gains on marketable securities		34		34
Comprehensive income				24,226
Balance, December 31, 1999	0	0	(74,883)	27,067
Issuance of common stock, series C settlement				1,145
Issuance of common stock under equity facility, net of issuance costs				9,743
Exercise of warrants				11,637
Issuance of shares pursuant to stock option and purchase plans				4,954
Stock-based compensation to consultants	(359)			

Amortization of stock-based compensation	142			142
Comprehensive loss:				
Net loss			(13,832)	(13,832)
Other comprehensive income - Unrealized loss on marketable securities		(5)		(5)
Comprehensive loss				(13,837)
Balance, December 31, 2000	$ (217)	$ (5)	$ (88,715)	$ 40,851

See notes to consolidated financial statements.

ARIAD PHARMACEUTICALS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Nature of Business and Summary of Significant Accounting Policies

Nature of Business

The Company is engaged in developing innovative pharmaceutical product candidates based on small-molecule drugs and its proprietary gene regulation technology platforms. The Company integrates functional genomics and proteomics, protein engineering, and structure-based drug design in the drug discovery process. The Company's lead product candidates – treatments for osteoporosis, cancer, anemia, and graft-vs-host disease, the major limitation of allogeneic bone marrow transplantation – all work through small-molecule regulation of cellular processes. The Company's benchmark gene regulation technologies, ARGENT, RPD, and RGE, already are being used by approximately 400 academic investigators worldwide for scientific research. Commercial licenses to these technologies also are available to pharmaceutical and biotechnology companies for use in their drug discovery efforts and for collaborative development of novel products.

Principles of Consolidation

The consolidated financial statements include the accounts of ARIAD Pharmaceuticals, Inc., its wholly owned subsidiary, ARIAD Corporation, and its slightly more than 80% owned subsidiary (79% on a fully diluted basis with respect to AGTI), ARIAD Gene Therapeutics, Inc. ("AGTI") (Note 8). Intercompany accounts and transactions have been eliminated. There is no minority interest for AGTI recorded in the consolidated balance sheet because AGTI currently has a deficiency in its stockholders' equity.

Fair Value of Financial Instruments

The carrying amounts of cash, cash equivalents, accounts payable and accrued liabilities approximate fair value because of their short-term nature. Marketable securities are recorded in the consolidated financial statements at aggregate fair value (Note 2). The carrying amounts of the Company's debt instruments approximate fair value due to the variable interest rate (Note 5).

Accounting Estimates

The preparation of the consolidated financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts and disclosure of assets and liabilities at the date of the consolidated financial statements and the reported amounts and disclosure of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Cash Equivalents

Cash equivalents include short-term, highly liquid investments, which consist principally of United States Treasury and Agency securities and high-grade domestic corporate securities, purchased with remaining maturities of 90 days or less.

Marketable Securities

The Company has classified its marketable securities as "available-for-sale" and, accordingly, carries such securities at aggregate fair value. The difference between fair value and original cost is reflected as a

component of accumulated other comprehensive loss. Fair value has been determined based on quoted market prices, in a dealer market, at the closing bid for each individual security held.

Inventory

Inventories are carried at cost using the first-in, first-out method and are charged to research and development expense when consumed. Inventory consists of bulk pharmaceutical material to be used for multiple preclinical and clinical development programs and amounted to $898,000 and $1.2 million at December 31, 2000 and 1999, respectively.

Property and Equipment

Property and equipment are recorded at cost. Depreciation is recorded using the straight-line method over the estimated useful lives of the assets (3 to 10 years). Assets acquired under capital lease obligations are stated at the lower of the present value of the minimum lease payments or the fair market value at the inception of the lease. Assets recorded under capital leases and leasehold improvements are amortized over the shorter of their useful lives or lease term using the straight-line method (4 to 10 years).

The Company accounts for the impairment of long-lived assets in accordance with the provisions of Statement of Financial Accounting Standards ("SFAS") No. 121, *Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of.*

Investment in Genomics Center

The Company accounted for its investment in the Genomics Center using the equity method through December 31, 1999. Intercompany transactions were eliminated to the extent of the Company's interest (50%) in the Genomics Center (Note 4).

Intangible and Other Assets

Intangible and other assets consist primarily of purchased patents, patent applications, and deposits. The balance at December 31, 1999 also included $6.9 million of cash, subsequently expended on January 14, 2000 to repurchase series C preferred stock (Note 7).

The cost of purchased patents and patent applications and costs incurred in filing patents are capitalized. Capitalized costs related to patent applications are expensed, when it becomes determinable that such applications will not be pursued. Capitalized costs related to issued patents are amortized over a period not to exceed seventeen years or the remaining life of the patent, whichever is shorter, using the straight-line method. Costs incurred in connection with the 1995 Osteoporosis Agreement (Note 3) have been fully amortized over a three-year period ending November 1998. Accumulated amortization of intangible and other assets at December 31, 2000 and 1999 was $2.0 million and $1.6 million, respectively.

Revenue Recognition

Under collaborative research and development agreements, research revenue is recognized as the research is performed under the terms of the applicable agreement. Amounts received in advance under the 1995 Osteoporosis Agreement (Note 3) were recorded as deferred revenue and were amortized over the minimum term of the Agreement using the straight-line method. Revenue earned upon the attainment of research or product development milestones is recognized when achieved. Research revenue associated with the Service Agreements was billed on a cost reimbursement basis, which includes direct costs incurred in connection with research activities and an allocation of certain other costs incurred by the Company. Research revenue under the terms of the Services Agreements with the Genomics Center (Note 4) was recognized as services were provided. None of the Company's research revenue recognized is refundable.

Segment Reporting

The Company organizes itself into one segment reporting to the chief executive officer. No significant revenues from product sales or services occurred in 2000. In years prior to 2000, revenues were primarily derived from research and development activities with collaborative and strategic partners in the pharmaceutical industry.

Stock-Based Compensation

SFAS No. 123, *Accounting for Stock-Based Compensation*, addresses the financial accounting and reporting standards for stock or other equity-based compensation arrangements. The Company has elected to continue to use the intrinsic value-based method to account for employee stock option awards under the provisions of Accounting Principles Board Opinion No. 25 and provides disclosures based on the fair value method in the notes to the financial statements as permitted by SFAS No. 123. Stock or other equity-based compensation for non-employees must be accounted for under the fair value-based method as required by SFAS No. 123 and Emerging Issues Task Force ("EITF") No. 96-18, *Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services"* and other related interpretations. Under this method, the equity-based instrument is valued at either the fair value of the consideration received or the equity instrument issued on the date of grant. The resulting compensation cost is recognized and charged to operations over the service period, which is usually the vesting period.

Earnings Per Share

Basic earnings per common share are computed using the weighted average number of common shares outstanding during each year. Diluted earnings per common share reflect the effect of the Company's outstanding options, warrants and convertible securities, except where such items would be anti-dilutive. In years in which a net loss is reported, basic and diluted per share amounts are the same. In 2000, 1999 and 1998, options, warrants, and the effects of conversion of convertible securities amounting to 2,416,524, 3,044,397 and 3,504,188 shares of common stock, respectively, were not included in the computation of dilutive earnings per share, because this effect would be anti-dilutive.

The following is a reconciliation of the shares used in the calculation of basic and diluted net income per share for the year ended December 31, 1999. Potentially dilutive shares were calculated using the treasury stock method:

Weighted average shares for basic shares outstanding	22,004,646
Incremental shares from assumed conversion of preferred stock	11,846,541
Incremental shares from assumed exercise of potentially dilutive stock options	596,828
Weighted average shares for dilutive shares outstanding	34,448,015
In thousands	
Net income attributable to common stockholders	$ 17,757
Effect of repurchase and accretion costs attributable to redeemable convertible preferred stock	6,435
Net income	$ 24,192

Accounting Change

In April 1998, the American Institute of Certified Public Accountants issued Statement of Position ("SOP") 98-5, *Reporting on the Cost of Start-Up Activities,* which required that all organizational costs be expensed as incurred. The Company adopted this SOP effective January 1, 1999 and recorded a charge of $364,000 as a cumulative effect of change in accounting principle.

Recently Issued Accounting Pronouncements

In June 1998, the Financial Accounting Standards Board issued SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities*. The new standard, which was required to be adopted on January 1, 2001, requires that all companies record derivatives on the balance sheet as assets or liabilities, measured at fair value. Gains or losses resulting from changes in the values of those derivatives would be accounted for depending on the use of the derivative and whether it qualifies for hedge accounting. The adoption of this standard on January 1, 2001 had no impact on the Company's financial position or results of operations.

Staff Accounting Bulletin 101, *"Revenue Recognition in Financial Statements"* (SAB 101), provides guidance related to revenue recognition based on interpretations and practices advised by the SEC. Adoption of SAB 101 in the fourth quarter of 2000, as required, had no impact on the Company's financial position or results of operations.

2. Marketable Securities

At December 31, 2000, the aggregate fair value and amortized cost of the Company's marketable securities were $27.2 million. Gross unrealized gains and losses were $11,000 and $16,000, respectively, at December 31, 2000. At December 31, 1999 the Company held no marketable securities.

Gains and losses on investment security transactions are reported on the specific-identification method. Realized gains and losses on sales of marketable securities were not material during the years ended December 31, 2000, 1999 and 1998. Changes in market values resulted in an increase (decrease) of $5,000, ($34,000) and ($13,000) in net unrealized losses for the years ended December 31, 2000, 1999 and 1998, respectively.

3. Collaborative Research and Development Agreements

In November 1995, the Company entered into an agreement with Hoechst Marion Roussel ("HMR") (the "1995 Osteoporosis Agreement") to collaborate on the discovery and development of drugs to treat osteoporosis and related bone diseases, one of the Company's signal transduction inhibitor programs. Under the 1995 Osteoporosis Agreement, the Company granted to HMR exclusive rights to develop and commercialize these drugs worldwide. Under the terms of this Agreement, HMR made an initial cash payment to the Company of $10.0 million, agreed to provide research funding in equal quarterly amounts of $1.0 million up to an aggregate of $20.0 million over a five-year period and agreed to provide an aggregate of up to $10.0 million upon the attainment of certain research milestones. This Agreement further provided for the payment of royalties to the Company based on product sales. Revenue recognized under the 1995 Osteoporosis Agreement amounted to $6.0 million and $6.8 million in 1999 and 1998, respectively, including $2.0 million for the achievement of the second research milestone in 1999.

Subsequently, in connection with the sale of the Company's 50% interest in the Genomics Center in 1999 (Note 4), all drug candidates and related technologies resulting from the 1995 Osteoporosis Agreement were assigned to the Company, and any further obligations of HMR to fund the Company's research were terminated.

The Company was the grantee organization of four grants from the National Institutes of Health to conduct research related to signal transduction. Costs incurred and the corresponding research revenue recognized was $114,000 for 1998.

4. Hoechst-ARIAD Genomics Center, LLC

Formation of the Genomics Center

In March 1997, the Company entered into an agreement which established a 50/50 joint venture with Aventis Pharmaceuticals, Inc. (formerly known as Hoechst Marion Roussel, Inc.) ("Aventis") to pursue functional genomics with the goal of identifying genes that encode novel therapeutic proteins and small-molecule drug targets (the "1997 Genomics Agreement"). The joint venture, named the Hoechst-ARIAD Genomics Center, LLC (the "Genomics Center"), was located at the Company's facility in Cambridge, Massachusetts. Under the terms of the 1997 Genomics Agreement, the Company and Aventis agreed to commit $85.0 million to the establishment of the Genomics Center and its first five years of operation. The Company and Aventis agreed to jointly fund $78.5 million of operating and related costs, and the Company agreed to invest up to $6.5 million in leasehold improvements and equipment for use by the Company in conducting research on behalf of the Genomics Center. Through December 31, 1999, the Company had invested $6.5 million in leasehold improvements and equipment and funded $15.0 million in operating and related costs. Aventis committed to provide the Company with capital adequate to fund ARIAD's share of such costs through the purchase of up to $49.0 million of the Company's series B convertible preferred stock over the five-year period, including an initial investment of $24.0 million, which was completed in March 1997 and $5.7 million which was completed in January 1999 (Note 7). Using a loan facility made available by Aventis, the Company borrowed $1.8 million during 1999 to fund a portion of its investment obligations relating to the Genomics Center.

Services Agreements

The Company also entered into agreements with the Genomics Center to provide research and administrative services (the "Services Agreements") to the Genomics Center on a cost reimbursement basis. The Company's costs of providing the research and administrative services to the Genomics Center were charged to research and development expense and general and administrative expense in the consolidated financial statements. Under the Services Agreements, the Company billed the Genomics Center for 100% of its cost of providing the research and administrative services; however, because the Company was providing 50% of the funding of the Genomics Center, the Company recognized as revenue only 50% of the billings to the Genomics Center. The remaining 50% was accounted for as a return of the Company's investment in the Genomics Center. Revenue recognized pursuant to the Services Agreements amounted to $6.4 million and $5.0 million for the years ended December 31, 1999 and 1998, respectively.

Sale of the Company's 50% Interest in the Genomics Center

On December 31, 1999, the Company completed the sale of its 50% interest in the Genomics Center to Aventis and received: (1) $40.0 million in cash, (2) 3,004,436 shares of the Company's previously issued series B convertible preferred stock (which was immediately retired), (3) the forgiveness of $1.9 million of long-term debt including accrued interest owed by the Company to Aventis, (4) drug candidates and related technologies resulting from the 1995 Osteoporosis Agreement (Note 3) and (5) the right to use certain genomics and bioinformatics technologies developed by the Genomics Center. In addition, the Company agreed to (1) sublease to Aventis approximately 35,000 square feet of laboratory and office space, for an amount equal to the Company's cost, for a period of up to seven years, (2) assign equipment leases with aggregate rental payments of $1.8 million to Aventis (Note 6), and (3) provide certain transitional laboratory support services.

The Company recorded a net gain on the sale of $46.4 million recognizing proceeds of (1) $40.0 million in cash, (2) $8.5 million equivalent to the fair market value of the common stock underlying the series B convertible preferred stock, and (3) $1.9 million of long-term debt and interest forgiven; offset by (1) $2.3 million of unamortized leasehold improvements associated with laboratory space under sublease, and (2) $1.6 million representing the Company's investment account and other costs of completing the sale.

The major components of the Genomics Center's results of operations were as follows:

	Year Ended December 31,	
In thousands	**1999**	**1998**
Revenues	$ —	$ —
Operating expenses:		
ARIAD	12,936	9,902
Other	2,958	1,307
Net loss	$ (15,894)	$ (11,209)
ARIAD's 50% share of net loss	$ (7,947)	$ (5,605)
Elimination of intercompany transactions	6,454	4,945
ARIAD's equity in the net loss on the Genomics Center	$ (1,493)	$ (660)

5. Long-Term Debt

Long-term debt was comprised of the following at December 31:

	2000	**1999**
	In thousands	
Bank term note at prime plus 1% (10.50%, at December 31, 2000) payable in monthly installments of $100,000 plus interest, through January 1, 2005	$4,900	$3,100
Less current portion	1,200	1,200
Long-term debt	$3,700	$1,900

The bank term note is collateralized by all assets of the Company. The Company may, at its option, pledge marketable securities under the bank term note, and, in such event, the interest rate would be adjusted to the equivalent of 90-day LIBOR plus 1.25%. No securities were pledged at December 31, 2000.

The above agreement contains certain covenants that would require consent from the bank to change the Company's Chief Executive Officer, increase indebtedness, capital spending and stock redemption, prohibit dividend distributions, and require the Company to pledge its marketable securities or maintain minimum levels of tangible net worth of $15.0 million, working capital of $7.0 million and liquid assets of $15.0 million, all as defined.

The annual aggregate future principal payments are $1.2 million in each of the years 2001, 2002, 2003 and 2004, and $100,000 in 2005. Interest payments during 2000, 1999 and 1998 were $204,000, $376,000 and $453,000, respectively.

6. Leases, Licensed Technology and Other Commitments

Facility Lease

The Company conducts its operations in a 100,000 square foot office and laboratory facility under a ten-year non-cancelable operating lease. The lease expires in July 2002 and has two five-year options to extend. The Company has sublet approximately 52,000 square feet of space to Aventis (Note 4) and other tenants. Rent expense, net of sublease revenue of $1.2 million, $264,000 and $113,000 for the years ended December 31, 2000, 1999 and 1998, amounted to $477,000, $1.2 million and $1.1 million, respectively. Future minimum annual rental payments, net of sublease revenues, are approximately $523,000 for 2001 and $489,000 for 2002.

Equipment Leases

The Company utilizes lease credit facilities from various equipment leasing companies to acquire equipment, which is resold to a lessor at cost, with no resulting gain or loss recognized. The lease agreements, which are classified as operating leases for financial reporting purposes, have terms ranging from three to five years with various lease renewal or purchase options at the end of the initial term. The Company did not enter into any new equipment lease agreements in 2000. During the years ended December 31, 1999 and 1998, the Company entered into sales leaseback transactions amounting to $309,000 and $2.6 million, respectively. Equipment rental expense for the years ended December 31, 2000, 1999 and 1998 amounted to $933,000, $1.8 million and $1.9 million, respectively. Some of the agreements contain covenants requiring the Company to maintain certain minimum levels of net worth, working capital and liquid assets. Minimum future rental payments under the initial terms of the leases are approximately $846,000 for 2001, $741,000 for 2002, $196,000 for 2003, and $33,000 for 2004.

Collaborative Agreement

In connection with the establishment of the Genomics Center (Note 4), the Company entered into a three-year collaborative agreement with Incyte Pharmaceuticals, Inc. that provided the Company with access to various genomic data through December 31, 2000. The agreement was amended in December 1998 to provide increased data access and increased annual fees from $3.0 million to $3.8 million commencing in 1999, of which $500,000 was reimbursed annually by Aventis. The amounts charged to research expense, net of the Aventis reimbursement in 1999 and 1998 were $3.3 million and $2.7 million, respectively. The agreement provided for additional payments for exclusive licenses, the achievement of certain milestones in drug development and royalties on net sales. In connection with the sale of the Company’s interest in the Genomics Center, the agreement was terminated without further obligation of the Company.

Licensed Technology

The Company and AGTI have entered into agreements with several universities under the terms of which the Company and AGTI have received exclusive licenses or options to technology and intellectual property. The agreements, which are generally cancelable by the Company and AGTI, provide for the payment of license fees and/or minimum payments, which are generally creditable against future royalties. Fees aggregated $127,000, $105,000 and $300,000 for 2000, 1999 and 1998, respectively, and were charged to research and development expense and are expected to amount to approximately $127,000 for 2001, $232,000 for 2002, and $162,000 annually for 2003, 2004 and 2005. In addition, the agreements provide for payments upon the achievement of certain milestones in drug development, such as the filing of an Investigational New Drug Application or the filing of a New Drug Application for regulatory approval in the United States. The agreements also require the Company to fund certain costs associated with the filing and prosecution of patent applications.

Other Commitments

The Company has entered into various employment agreements with its senior officers. The agreements provide for aggregate annual base salaries of $1.5 million and remaining terms of employment of up to three years.

7. Stockholders' Equity

Series Preferred Stock

The Company has authorized 10 million shares of preferred stock which the Board of Directors is empowered to designate and issue in different series. At December 31, 2000, the Board of Directors had designated 500,000 shares as series A preferred stock, 5.0 million shares as series B preferred stock, 25,000 shares as series C preferred stock, and 4.5 million shares remained undesignated.

Series B Convertible Preferred Stock ("Series B Preferred Stock")

In connection with the 1997 Genomics Agreement, on March 18, 1997, Aventis purchased 2,526,316 shares of the Company's Series B Preferred Stock for $24.0 million, and on January 5, 1999, Aventis purchased an additional 478,120 shares of Series B Preferred Stock for $5.7 million. In connection with the sale of the Company's interest in the Genomics Center, all shares of Series B Preferred Stock were redeemed by the Company and retired.

Series C Redeemable Convertible Preferred Stock ("Series C Preferred Stock")

On November 9, 1998, the Company issued 5,000 shares of the Company's Series C Preferred Stock to two institutional investors (the "Investors") and received proceeds of approximately $5 million. Each share of Series C Preferred Stock had a liquidation value of $1,000, plus an additional amount equal to a 5% per annum accretion amount, accrued from the date of issue, and was convertible into common stock of the Company, at a conversion price equal to the lower of a variable conversion price or $2.09 per share.

On December 31, 1999, the Company repurchased 2,000 shares of Series C Preferred Stock from one of the Investors for an aggregate cash payment of $3.4 million. On January 14, 2000, the Company completed the repurchase of the remaining 3,000 shares of its Series C Preferred Stock for an aggregate consideration of $6.9 million plus 1,078,038 shares of common stock. The aggregate premium of $6.2 million paid on both transactions has been included in the 1999 consolidated statements of operations as repurchase and accretion costs attributable to redeemable convertible preferred stock. Redeemable convertible preferred stock was carried at redemption cost at December 31, 1999.

Common Stock – Equity Financing Facility and Private Placement

On June 27, 2000, the Company entered into an Equity Financing Facility (the "Equity Facility") with Acqua Wellington North American Equities Fund, Ltd. ("Acqua Wellington"). Under the terms of the Equity Facility, at its option, the Company may from time to time sell up to an aggregate of $75.0 million of its common stock to Acqua Wellington over an 18 month period expiring in December, 2001, of which $2.1 million has been sold, as discussed below. The Company agreed to issue and sell the shares to Acqua Wellington at a per share price equal to the daily volume weighted average price of the Company's common stock on each date during a specified period during which the shares are to be purchased, less a discount of between 3.5% and 6.0%, or under certain circumstances, less a discount mutually agreed to by the parties. The discount is determined based on the threshold price to be established by the Company for the applicable period.

In addition, on June 27, 2000, the Company sold to Acqua Wellington 680,851 shares of common stock at $11.75 per share for a total of $8 million in a direct equity placement. Pursuant to the terms of the Equity Facility, on October 12, 2000, the Company completed the sale of 176,173 shares of common stock to Acqua Wellington at a price of $12.11 per share and received proceeds of approximately $2.1 million.

Redemption of Warrants

The Company received funds aggregating approximately $11.6 million from the exercise of approximately 1.4 million of its publicly traded warrants during the first and second quarters of 2000. Each warrant was exercisable for one share of common stock at an exercise price of $8.40 per share. The warrants had been called for redemption effective April 27, 2000. At December 31, 2000, there were no warrants outstanding.

Stockholder Rights Plan

The Board of Directors of the Company adopted a new Rights Agreement, dated as of June 8, 2000 (the “2000 Rights Agreement”), between the Company and State Street Bank and Trust Company, as Rights Agent, and approved the declaration of a dividend distribution of one Preferred Share Purchase Right (a “Right”) on each outstanding share of its Common Stock. In general, the Rights become exercisable if a person or group hereafter acquires 15% or more of the Common Stock of the Company or announces a tender offer for 15% or more of the Common Stock. The Board of Directors will, in general, be entitled to redeem the Rights at one cent per Right at any time before any such person hereafter acquires 15% or more of the outstanding Common Stock. The plan is designed to protect the Company's stockholders in the event that an attempt is made to acquire the Company without an offer of fair value.

If a person hereafter acquires 15% or more of the outstanding Common Stock of the Company (the “Acquiring Person”), each Right will entitle its holder to purchase, for an initial exercise price of $65, a number of shares of Common Stock having a market value at that time of twice the Right’s exercise price. Rights held by the Acquiring Person will become void. If the Company is acquired in a merger or other business combination transaction after a person acquires 15% or more of the Company’s Common Stock, each Right will entitle its holder to purchase, at the Right’s then-current exercise price, a number of the acquiring company’s common shares having a market value at that time of twice the Right’s exercise price.

The dividend distribution of Rights was payable on July 19, 2000 to shareholders of record on June 19, 2000. The Rights will expire in ten years. The Rights distribution is not taxable to the Company's stockholders.

The Board of Directors also adopted two amendments to the Rights Agreement dated December 15, 1994, as amended (the “1994 Rights Agreement”), between the Company and State Street Bank and Trust Company, as Rights Agent. As a result of these amendments, the adoption of the 2000 Rights Agreement and the setting of a record date to distribute new Rights, the 1994 Rights Agreement is no longer in effect.

Minority Interest in Subsidiary

The slightly less than 20% minority interest in AGTI includes shares owned by Stanford University and Harvard University (2%) issued in 1995 in connection with a license agreement and shares issued to option holders (18%), including members of the Company’s management, Board of Directors, and certain consultants. Additional stock options are outstanding and, if exercised, would increase the minority interest to 21% (Note 8).

8. Stock Option and Stock Purchase Plans

ARIAD Stock Option Plans

The Company's 1991 and 1994 Stock Option Plans (the "Plans") provide for the granting of nonqualified and incentive stock options to purchase up to a maximum of 6,285,714 shares of common stock to officers, directors, employees and consultants of the Company. Options become exercisable as specified in the related option agreement, typically over a four-year period, and expire ten years from the date of grant.

Transactions under the Plans for the years ended December 31, 1998, 1999 and 2000 are as follows:

	Number of Shares	Weighted Average Exercise Price Per Share
Options outstanding, January 1, 1998	3,542,557	$ 3.23
Granted	1,313,775	3.75
Forfeited	(240,154)	4.32
Exercised	(77,441)	2.08
Options outstanding, December 31, 1998	4,538,737	3.34
Granted	2,128,095	1.03
Forfeited	(1,555,588)	3.09
Exercised	(41,875)	1.59
Options outstanding, December 31, 1999	5,069,369	2.48
Granted	553,300	10.99
Forfeited	(226,668)	4.04
Exercised	(1,915,641)	2.40
Options outstanding, December 31, 2000	3,480,360	$ 3.77
Options exercisable, December 31, 1998	2,618,294	$ 2.59
December 31, 1999	3,536,268	$ 2.47
December 31, 2000	2,268,950	$ 2.64

The following table sets forth information regarding options outstanding at December 31, 2000:

Range of Exercise Prices	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Life (years)	Number of Option Shares Currently Exercisable	Weighted Average Exercise Price for Currently Exercisable
$.75-1.25	642,512	$ .77	8.8	596,987	$ .75
1.34-2.31	1,380,950	1.77	5.2	950,515	1.89
2.68-4.88	747,566	4.21	6.4	503,389	4.23
4.89-8.00	362,032	6.55	8.3	203,059	7.00
12.56-14.63	347,300	13.41	9.5	15,000	12.56
$.75-14.63	3,480,360	$ 3.77	6.9	2,268,950	$ 2.64

As described in Note 1, the Company uses the intrinsic value method to measure compensation expense associated with grants of stock options to employees. The Company has also issued options to consultants, which are included in the table above. The unearned portion of these awards is shown as “deferred compensation” on the consolidated balance sheet. Had the Company used the fair value method to measure compensation, the net income (loss) and net income (loss) per share would have been reported as follows:

	Years ended December 31,		
	2000	1999	1998
In thousands (except per share data)			
Basic:			
Proforma net income (loss) attributable to common stockholders	$ (16,667)	$ 16,311	$ (27,817)
Proforma net income (loss) per share	$ (.64)	$ .74	$ (1.33)
Diluted:			
Proforma net income (loss) attributable to common stockholders plus repurchase and accretion costs attributable to redeemable convertible preferred stock	$ (16,667)	$ 22,746	$ (27,817)
Proforma net income (loss) per share	$ (.64)	$ .66	$ (1.33)

At December 31, 2000, the Company has 553,291 options available to be issued at future dates under the Plans.

The above disclosure, required by SFAS No. 123, includes only the effect of grants made subsequent to January 1, 1996. For purposes of calculating the above disclosure, the fair value of options on their grant date was measured using the Black-Scholes option pricing model. Key assumptions used to apply this pricing model included a risk-free interest rate of 5.9% for 2000 and 5.5% for each of 1999 and 1998, expected lives of the option grants ranging from one to six years and expected rates of volatility for the underlying stock of 109% for 2000, 100% for 1999 and 82% for 1998. Using this model, the weighted average fair value per option for all options granted to employees in 2000, 1999 and 1998 was $9.35, $1.09 and $2.75, respectively.

ARIAD Gene Therapeutics, Inc. Stock Option Plans

The Company's subsidiary, AGTI, adopted stock option plans in 1993 substantially similar to the Plans and reserved 1,785,714 shares of AGTI's common stock for issuance pursuant to such plans. At December 31, 2000, options with respect to 87,428 shares of AGTI's common stock (all granted in 1994) were outstanding at an exercise price of $.42 per share, and all option shares were exercisable. During 2000, 758,282 options were exercised, and 25,000 option shares were forfeited. During 1999, 89,285 options were exercised, and 207,142 option shares were forfeited. During 1998, 62,499 options were exercised, and 8,929 option shares were forfeited. As of December 31, 2000, AGTI had 5,195,779 shares of its common stock outstanding.

Employee Stock Purchase Plan

In 1997, the Company adopted the 1997 Employee Stock Purchase Plan and reserved 500,000 shares of common stock for issuance under this plan. Under this plan, substantially all of its employees may, through payroll withholdings, purchase shares of the Company's stock at a price of 85% of the lesser of the fair market value at the beginning or end of each three-month withholding period. In 2000, 1999 and 1998, 20,049, 51,259 and 15,207 shares of common stock were issued under the plan, respectively.

9. Income Taxes

At December 31, 2000, the Company had available for federal tax reporting purposes, net operating loss carryforwards of approximately $91.4 million, which expire commencing in 2009. The Company also had federal research and development credit carryovers of approximately $5.5 million, which expire commencing in 2006. Both the net operating loss carryforwards and credits are subject to certain limitations under federal tax law.

The components of deferred income taxes were as follows at December 31:

In thousands	**2000**	**1999**
Deferred tax liabilities:		
Intangible and other assets	$ 1,882	$ 1,588
Organizational costs	2	
Total deferred tax liabilities	1,884	1,588
Deferred tax assets:		
Net operating loss carryforwards	34,707	25,226
Federal and State tax credit carryovers	9,860	8,905
Depreciation	3,416	2,089
Other	255	126
Total deferred tax assets	48,238	36,346
Deferred tax assets, net	46,354	34,758
Valuation allowance	(46,354)	(34,758)
Total deferred taxes	$ 0	$ 0

Although the Company earned taxable income in 1999 due to the gain on sale of the Genomics Center, it was able to utilize net operating loss carryforwards to eliminate substantially all taxes due. Since the Company has not yet achieved sustained profitable operations, management believes the tax benefits as of December 31, 2000 do not satisfy the realization criteria set forth in SFAS No. 109 and has recorded a valuation allowance for the entire net deferred tax asset. The increase in the valuation allowance of $11.6 million in 2000 resulted primarily from net operating loss carryforwards and tax credit carryovers that resulted from operations in fiscal 2000. The decrease in the valuation allowance of $8.4 million in 1999 resulted from the utilization of net operating loss carryforwards. The increase in the valuation allowance of $11.8 million in 1998 resulted primarily from net operating loss carryforwards and tax credit carryovers.

10. Litigation

The Company was named as a defendant in a purported class action lawsuit commenced in June 1995 in the U.S. District Court for the Southern District of New York. The action named as defendants the Company; the underwriter of the Company's initial public offering and a market maker in the Company's stock, D. Blech & Co.; the managing director and sole shareholder of D. Blech & Co. and a former director of the Company, David Blech; certain directors of the Company and the qualified independent underwriter for the initial public offering, Shoenberg Hieber, Inc. ("SHI").

Counsel for the plaintiff class, counsel for the Company and the named director defendants, excluding David Blech (the "Company Defendants"), and counsel for SHI have executed a stipulation of settlement in the action (the "Proposed Settlement"). The Proposed Settlement, in substance, contemplates a payment of $620,000 as consideration for plaintiffs' consent to entry of judgment dismissing the action with prejudice and barring "contribution-type" claims against the Company Defendants by non-settling parties. The Proposed Settlement further is subject to the Court's approval of that stipulation as fair, adequate and reasonable, and to entry of an appropriate judgment of dismissal in the action and in a related action entitled In re: Blech Securities Litigation, 94 Civ. 7696 (RWS), from which the Court previously ordered the Company dismissed as a defendant. The amount the Company agreed to contribute was not material.

On May 19, 1999, the Company filed suit in the Massachusetts Superior Court against Michael Z. Gilman, Ph.D. ("Dr. Gilman"), the Company's former Chief Scientific Officer, seeking equitable relief for breach of his employment agreements in accepting a position as the research director of molecular biology at Biogen, Inc. ("Biogen"). The Superior Court issued a temporary injunction on May 19, 1999 restraining Dr. Gilman from using any of the Company's confidential information in his new employment. On June 21, 1999, Dr. Gilman filed a counterclaim against the Company seeking an order awarding damages for breach of contract and barring the Company from enforcing any provisions of its employment agreements with Dr. Gilman. On May 26, 1999 Biogen filed a motion to intervene as a defendant in the action which the Superior Court granted on August 2, 1999. Discovery in the case has not been completed and Summary Judgment Motions are not due to be filed until August, 2001. The ultimate outcome of the litigation with Dr. Gilman is not determinable at this time.

ITEM 9: CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not Applicable.

PART III

ITEM 10: DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

The directors, officers and key employees of the Company are as follows:

Name	Age	Position
Harvey J. Berger, M.D.	50	Chairman of the Board of Directors, President and Chief Executive Officer
Sandford D. Smith	53	Vice Chairman of the Board of Directors
David L. Berstein, Esq	48	Senior Vice President and Chief Patent Counsel
Fritz Casselman	51	Senior Vice President and Chief Business Officer
John D. Iuliucci, Ph.D.	58	Senior Vice President, Drug Development
Lee C. Steele	51	Senior Vice President and Chief Financial Officer
Timothy P. Clackson, Ph.D.	35	Vice President, Gene Therapy
David C. Dalgarno, D. Phil	43	Vice President, Physical and Chemical Sciences
Tomi K. Sawyer, Ph.D.	46	Vice President, Drug Discovery
Joseph Bratica	37	Director, Finance and Controller
Michael E. DeMarco	42	Director, Operations
Vaughn D. Bryson	62	Director
John M. Deutch, Ph.D.	62	Director
Philip Felig, M.D.	64	Director
Tamar Howson	52	Director
Jay R. LaMarche	54	Director
Ralph Snyderman, M.D.	60	Director
Raymond S. Troubh	74	Director

Harvey J. Berger, M.D. is our principal founder and has served as our Chairman of the Board, President and Chief Executive Officer since April 1991. From 1986 to 1991, Dr. Berger held a series of senior management positions at Centocor, Inc., a biotechnology company, most recently as Executive Vice President and President, Research and Development Division. He also has held senior academic and administrative appointments at Emory University, Yale University and the University of Pennsylvania and was an Established Investigator of the American Heart Association. Dr. Berger received his A.B. degree in Biology from Colgate University and his M.D. degree from Yale University School of Medicine and did further medical and research training at the Massachusetts General Hospital and Yale-New Haven Hospital.

Sandford D. Smith, one of our Directors since October 1991 and our Vice Chairman since January 1999, is Corporate Vice President and President, Genzyme Europe and International, Genzyme Corporation. From October 1997 to December 2000, he was President, Therapeutics International, Genzyme Corporation, and from May 1996 to September 1996, Vice President and General Manager, Specialty Therapeutics and International Group, Genzyme Corporation, a biotechnology company. Mr. Smith was President and Chief Executive Officer and a Director of Repligen Corporation, a biotechnology company, from 1986 to March 1996. Mr. Smith previously held a number of positions with Bristol-Myers Squibb and Company from 1977 to 1986, including, most recently, Vice President of Corporate Development and Planning for the United States Pharmaceutical and Nutritional Group. Mr. Smith is a Director of CSPI, a software company. Mr. Smith earned his B.A. degree from the University of Denver.

David L. Berstein, Esq. has served as our Senior Vice President and Chief Patent Counsel since June 2000. Previously, he served as our Vice President and Chief Patent Counsel from September 1993 to June 2000. Prior to joining us, from 1990 through 1993, Mr. Berstein was Patent Counsel at BASF Bioresearch Corporation, a biotechnology company, where he was responsible for intellectual property matters, including patents and licensing. From 1985 to 1990, Mr. Berstein was a patent attorney at Genetics Institute, Inc., a biotechnology company, where he was involved in various aspects of the patent process from patent procurement through litigation. Mr. Berstein joined Genetics Institute from the law firm of Cooper & Dunham of New York, New York. Mr. Berstein received his B.S. degree from the University of Michigan and his J.D. degree from Fordham University School of Law.

Fritz Casselman has served as our Senior Vice President and Chief Business Officer since February 2001. From January 2000 to January 2001, Mr. Casselman was Senior Vice President, Strategy and Corporate Development at Avant Immunotherapeutics Inc., a biotechnology company. Previously, Mr. Casselman was Director of Worldwide Business Development at SmithKline Beecham, plc, a pharmaceutical company, and a partner at the law firm of Bromberg, Sunstein and Casselman of Boston, Massachusetts. Mr. Casselman received his J.D. degree from Boston University School of Law and his B.A. degree from the University of Wisconsin (Madison).

John D. Iuliucci, Ph.D. has served as our Senior Vice President, Drug Development since January 1999. Previously, he also served as our Vice President, Drug Development from October 1996 to December 1998 and our Vice President, Preclinical Development from June 1992 to September 1996. Prior to joining us, Dr. Iuliucci was Director of Preclinical Pharmacology and Toxicology at Centocor, Inc., a biotechnology company, from 1984 to 1992. From 1975 to 1984, Dr. Iuliucci headed the Drug Safety Evaluation Department at Adria Laboratories, a pharmaceutical company. He was a Senior Toxicologist at the Warner-Lambert Pharmaceutical Research Institute from 1972 to 1975. Dr. Iuliucci received a B.S. degree in Pharmacy and M.S. and Ph.D. degrees in Pharmacology from Temple University.

Lee C. Steele has served as our Chief Financial Officer, Treasurer and Senior Vice President since February 2001. Prior to joining us, Mr. Steele was Vice President and Chief Financial Officer of American Science & Engineering, Inc., a manufacturer of sophisticated instrumentation used in X-ray security systems and linear accelerators for medical and scientific applications, from 1994 to January 2001. Previously, Mr. Steele was a management consulting partner at Deloitte & Touche and a principal at Asset Management, Inc., a consulting and financial advisory firm. Mr. Steele earned an M.B.A. degree from Harvard Business School and a B.S. degree from Case Western Reserve University.

Timothy P. Clackson, Ph.D. has served as our Vice President, Gene Therapy since June 2000. Previously he served as our Director, Gene Therapy from August 1999 to June 2000 and as our Department Head, Gene Therapy Biology from March 1999 to August 1999. Prior to joining us in December 1994, Dr. Clackson was a postdoctoral fellow at Genentech, Inc., a biotechnology company, from 1991 to 1994, where he studied the molecular basis for human growth hormone function. Dr. Clackson received his Ph.D. in Biology from the University of Cambridge, for research conducted at the MRC Laboratory of Molecular Biology into antibody engineering and the development of phage display technology. Dr. Clackson received his B.A. degree in Biochemistry from the University of Oxford.

David C. Dalgarno, D. Phil. has served as our Vice President, Physical and Chemical Sciences since November 1999. Previously, he served as our Director, Physical and Chemical Sciences from September 1998 to November 1999 and as our Director, Spectroscopy from October 1996 to August 1998. Prior to joining us in March 1992, Dr. Dalgarno was a scientist at Schering-Plough Corp. focusing on protein structure determination by nuclear magnetic resonance. Dr. Dalgarno received his B.A. and Ph.D degrees in Chemistry from the University of Oxford. He received his postdoctoral training in Molecular Biophysics and Biochemistry at Yale University.

Tomi K. Sawyer, Ph.D. has served as our Vice President, Drug Discovery since January 1999. Previously, he served as our Director, Drug Discovery - Signal Transduction from October 1997 to December 1998. From July 1993 to September 1997, he was Head and Associate Research Fellow, Structure-Based Design and Chemistry at Parke-Davis Pharmaceutical Research a Division of Warner-Lambert Company, a pharmaceutical company, and Section Director, Peptide and Peptidomimetic Chemistry at Parke-Davis from July 1991 to July 1993. Dr. Sawyer received his Ph.D. degree in Organic Chemistry from the University of Arizona and his B.S. degree in Chemistry from Moorhead State University.

Joseph Bratica has served as our Director of Finance and Controller since January 1999. Previously, he served as our Assistant Controller from January 1997 to December 1998 and as our Accounting Manager from August 1994 to December 1996. Prior to joining us, he was Accounting Manager at Creative BioMolecules, Inc., a biotechnology company, from 1992 to 1994. Mr. Bratica received his B.A. degree in Accounting from Suffolk University.

Michael E. DeMarco has served as our Director of Operations since January 1998. Previously, he served as our Manager of Operations from May 1995 to December 1997 and as our Laboratory Manager from May 1992 to April 1995. Prior to joining us, he was a Laboratory Manager and Research Associate at the Howard Hughes Medical Institute at the University of Pennsylvania from May 1989 to May 1992. Mr. DeMarco received his B.S. degree in Biology from Cornell University.

Vaughn D. Bryson, one of our Directors since February 1995, is President of Life Science Advisors, Inc., a healthcare consulting company. Mr. Bryson was a thirty-two year employee of Eli Lilly & Co., a pharmaceutical company, from 1961 to 1993 and served as President and Chief Executive Officer of Eli Lilly from 1991 to 1993. He served as Executive Vice President of Eli Lilly from 1986 until 1991. He also served as member of Eli Lilly's Board of Directors from 1984 until his retirement in 1993. Mr. Bryson was Vice Chairman of Vector Securities International Inc., an investment banking firm, from April 1994 to December 1996. He also is a Director of Chiron Corporation, a biotechnology company, AtheroGenics, Inc., a biotechnology company, Amylin Pharmaceuticals, Inc., a biotechnology company, and Quintiles Transnational Corporation, a pharmaceutical services company. He received a B.S. degree in Pharmacy from the University of North Carolina and completed the Sloan Program at the Stanford University Graduate School of Business.

John M. Deutch, Ph.D., one of our Directors since March 1997, is an Institute Professor at the Massachusetts Institute of Technology. From 1992 to 1997, he previously served as Director of Central Intelligence, Deputy Secretary of Defense, and Undersecretary of Defense (Acquisition and Technology). Prior to this, he was Provost of the Massachusetts Institute of Technology, Dean of the School of Science, Chairman of the Department of Chemistry and the Karl Taylor Compton Professor of Chemistry. Mr. Deutch is a Director of Citicorp, a financial services company, CMS Energy Corporation, an energy company, Cummins Engine Company, Inc., a manufacturer of engines and engine components, Raytheon, Inc., a defense and commercial electronics company, and Schlumberger Ltd., an oil and gas equipment services company. Mr. Deutch received his B.A. degree from Amherst College and his D.Sc. degree from the Massachusetts Institute of Technology and was a postdoctoral fellow at the National Institutes of Health.

Philip Felig, M.D., one of our Directors since October 1991, has been in medical practice specializing in endocrinology and diabetes as an Attending Physician on the Senior Medical Staff at Lenox Hill Hospital since 1987. Prior to this, from 1986 to 1987, he was Chief Executive Officer of Sandoz Pharmaceuticals Corporation, a pharmaceutical company, and from 1984 to 1987, President of the Sandoz Research Institute. Previously, Dr. Felig held a series of academic positions at the Yale University School of Medicine, including Professor and Vice-Chairman of the Department of Medicine and Chief of Endocrinology. Dr. Felig received his B.A. degree from Princeton University and his M.D. degree from the Yale University School of Medicine and did further medical training at the Yale-New Haven Hospital, the Joslin Laboratory at Harvard Medical School and the Peter Bent Brigham Hospital. Dr. Felig also holds an Honorary Doctor of Medicine from the Karolinska Institute.

Tamar Howson, one of our Directors since September 2000, is a consultant in business development and strategic planning to biotechnology and pharmaceutical companies. From April 1993 to April 2000, Ms. Howson served as the Senior Vice President and Director, Worldwide Business Development, for SmithKline Beecham, plc., a pharmaceutical company. She also managed S.R. One, a venture capital fund, and was a member of the corporate management team between 1998 and 2000. From 1991 to 1993, she served as Vice President and Director, Worldwide Business Development for SmithKline Beecham, plc. Previously, Ms. Howson was Vice President, Venture Investments at Johnston Associates, a venture capital firm. Before that, she was Director of Worldwide Business Development and Licensing for Squibb Corporation, a pharmaceutical company. Ms. Howson is a director of NPS Pharmaceuticals, Inc., a biotechnology company, and SkyePharma, plc., a drug delivery company. Ms. Howson received her M.B.A. degree from Columbia University and her M.Sc. degree from City College of New York.

Jay R. LaMarche, one of our Directors since January 1992, has served as a financial advisor since November 2000. Previously, he served as our Chief Financial Officer and Treasurer from January 1992 to November 2000 and as our Executive Vice President from March 1997 to November 2000. Mr. LaMarche was our Senior Vice President, Finance from January 1992 to February 1997. Prior to joining us, he was Chief Financial Officer and a Director of ChemDesign Corporation, a fine chemicals manufacturer. Previously, Mr. LaMarche was a partner with Deloitte Haskins & Sells, a public accounting firm. Mr. LaMarche received his B.B.A. degree in Public Accountancy from the University of Notre Dame and served as an officer in the United States Navy.

Ralph Snyderman, M.D., one of our Directors since June 1998, has been Chancellor for Health Affairs and Dean, School of Medicine at Duke University since March 1989, and President and Chief Executive Officer of Duke University Health System since July 1998. He was formerly Senior Vice President of Medical Research and Development at Genentech, Inc., a biotechnology company, from January 1987 to May 1989. Dr. Snyderman is a Director of Proctor and Gamble, Inc., a consumer products and healthcare company. Dr. Snyderman received his M.D. degree from the State University of New York and his B.S. degree from Washington College, Chestertown, Maryland.

Raymond S. Troubh, one of our Directors since October 1991, has been a financial consultant for more than five years. Prior to this, he was a general partner of Lazard Freres & Co., an investment banking firm, and a governor of the American Stock Exchange. Mr. Troubh is a Director of Diamond Offshore Drilling, Inc., a contract drilling company, General American Investors Company, Inc., an investment trust company, Gentiva Health Services, Inc., a healthcare provider, Health Net, Inc., a managed healthcare company, Petrie Stores Corporation, a liquidating trust, Starwood Hotels & Resorts, Inc., a hotel operating company, Triarc Companies, Inc., a holdings company, and WHX Corporation, a steel products company. He is also a Trustee of Corporate Renaissance Group Liquidating Trust and MicroCap Liquidating Trust, both liquidating Trusts. He received his A.B. degree from Bowdoin College and his LL.B. degree from Yale Law School.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires our directors, executive officers and beneficial owners of more than 10% of our Common Stock to file reports of ownership and changes of ownership with the Commission on Forms 3, 4 and 5. We believe that during the fiscal year ended December 31, 2000 our directors, executive officers and beneficial owners of more than 10% of our Common Stock complied with all applicable filing requirements. In making these disclosures, we have relied solely on information filed with the Commission.

ITEM 11: EXECUTIVE COMPENSATION

The information appearing in our Proxy Statement for its 2001 Annual Meeting of Stockholders under the caption “Executive Compensation” is incorporated herein by this reference.

ITEM 12: SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information appearing in our Proxy Statement for its 2001 Annual Meeting of Stockholders under the caption “Security Ownership of Certain Beneficial Owners and Management” is incorporated herein by this reference.

ITEM 13: CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The information appearing in our Proxy Statement for its 2001 Annual Meeting of Stockholders under the caption “Certain Relationships and Related Transactions” is incorporated herein by this reference.

PART IV

ITEM 14: EXHIBITS, FINANCIAL STATEMENT SCHEDULES AND REPORTS ON FORM 8-K

(a)(1) The following Consolidated Financial Statements, Notes thereto and Independent Auditors' Report have been presented in Item 8:

Independent Auditors' Report

Consolidated Balance Sheets

Consolidated Statements of Operations

Consolidated Statements of Stockholders' Equity

Consolidated Statements of Cash Flows

Notes to Consolidated Financial Statements

(a)(2) Financial Statement Schedules:

Schedules have been omitted because of the absence of conditions under which they are required or because the required information is included in the financial statements or notes thereto.

The Exhibits listed in the Exhibit Index are filed herewith in the manner set forth therein.

(b) Reports on Form 8-K

We filed a Current Report on Form 8-K on October 16, 2000 to announce the initial results of *in vivo* studies on our small-molecule osteoporosis drug candidate which inhibited bone breakdown and stimulated new bone formation in animal models.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge and Commonwealth of Massachusetts on the 29th of March, 2001.

ARIAD PHARMACEUTICALS, INC

By: /s/ Harvey J. Berger, M.D.
Name: Harvey J. Berger, M.D.
Title: Chairman, President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Harvey J. Berger Harvey J. Berger, M.D.	Chairman of the Board of Directors, President and Chief Executive Officer (Principal Executive Officer)	March 29, 2001
/s/ Sandford D. Smith Sandford D. Smith	Vice Chairman of the Board of Directors	March 29, 2001
/s/ Lee C. Steele Lee C. Steele	Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)	March 29, 2001
/s/ Vaughn D. Bryson Vaughn D. Bryson	Director	March 29, 2001
/s/ John M. Deutch John M. Deutch, Ph.D.	Director	March 29, 2001
/s/ Philip Felig Philip Felig, M.D.	Director	March 29, 2001
/s/ Tamar Howson Tamar Howson	Director	March 29, 2001
/s/ Jay R. LaMarche Jay R. LaMarche	Director	March 29, 2001
/s/ Ralph Snyderman Ralph Snyderman, M.D.	Director	March 29, 2001
/s/ Raymond S. Troubh Raymond S. Troubh	Director	March 29, 2001

EXHIBIT INDEX

Exhibit No.	Title
3.1	Certificate of Incorporation of the Company, as amended (1)
3.2	Restated By-laws of the Company, as amended (6)
3.3	Amendment of Certificate of Incorporation of the Company, dated April 8, 1994 (2)
3.4	Amendment of Certificate of Incorporation of the Company, dated October 4, 1994 (5)
3.5	Certificate of Designations in respect of Series B Preferred Stock of the Company (8)
3.6	Certificate of Designations for Series C Convertible Preferred Stock (10)
4.1	Principal Stockholders' Agreement, dated as of January 5, 1992, among ARIAD Pharmaceuticals, Inc., David Blech, David Blech as trustee of The Blech Family Trust, Mark S. Germain, Harvey J. Berger, Harvey J. Berger and Wendy S. Berger as Trustees of the Berger Family Trust, Avalon Ventures and Avalon Ventures IV. (1)
4.2	Rights Agreement, dated as of June 8, 2000, between the Company and State Street Bank and Trust Company, which includes the Form of Certificate of Designations in respect of the Series A Preferred Stock, as Exhibit A, the Form of Right Certificate as Exhibit B and the Summary of Rights to Purchase Series A Preferred Stock as Exhibit C. Pursuant to the Rights Agreement, Right Certificates will not be mailed until after the Separation Date (as defined therein). (4)
4.3	Stock Purchase Agreement, dated as of April 24, 1995, between ARIAD Pharmaceuticals, Inc. and Biotech Target S.A. (7)
10.1	Lease Agreement, dated January 8, 1992, between ARIAD Pharmaceuticals, Inc. and Forest City Cambridge, Inc. (1)
10.2+	Executive Employment Agreement, dated as of January 1, 1992, between ARIAD Pharmaceuticals, Inc. and Harvey J. Berger, M.D. (1)
10.3+	Executive Employment Agreement, dated as of January 3, 1992, between ARIAD Pharmaceuticals, Inc. and Joan S. Brugge, Ph.D. (1)
10.4+	Executive Employment Agreement, dated as of January 1, 1992, between ARIAD Pharmaceuticals, Inc. and Jay R. LaMarche. (1)
10.5+	Executive Employment Agreement, dated as of October 14, 1991, between ARIAD Pharmaceuticals, Inc. and Manfred Weigele, Ph.D. (1)
10.6	Loan and Security Agreement, dated September 23, 1992, by and between ARIAD Pharmaceuticals, Inc., ARIAD Corporation and BayBank Boston, N.A. and related instruments and documents. (1)
10.7	Loan Agreement, dated October 28, 1992, among ARIAD Corporation, ARIAD Pharmaceuticals, Inc. and the Massachusetts Business Development Corporation and related instruments and documents. (1)

10.8	Equipment Lease Agreement, dated December 10, 1992, by and between ARIAD Corporation and General Electric Capital Corporation. (1)
10.9	Master Lease Agreement, dated December 21, 1992, by and between ARIAD Corporation and Comdisco, Inc. (1)
10.10+	ARIAD Pharmaceuticals, Inc. 1991 Stock Option Plan for Employees, as amended. (5)
10.11+	ARIAD Pharmaceuticals, Inc. 1991 Stock Option Plan for Directors. (1)
10.12+	ARIAD Retirement Savings Plan. (1)
10.13	Amended and Restated Agreement dated as of December 12, 1997 between The Board of Trustees of The Leland Stanford Junior University and ARIAD Gene Therapeutics, Inc. (9)
10.14+	Amendment, dated April 19, 1994, to Executive Employment Agreement between ARIAD Pharmaceuticals, Inc. and Harvey J. Berger, M.D. (3)
10.15+	Amendment, dated March 2, 1994, to Executive Employment Agreement between ARIAD Pharmaceuticals, Inc. and Joan S. Brugge, Ph.D. (3)
10.16+	Amendment, dated March 2, 1994, to Executive Employment Agreement between ARIAD Pharmaceuticals, Inc. and Jay R. LaMarche. (3)
10.17+	Amendment, dated March 2, 1994, to Executive Employment Agreement between ARIAD Pharmaceuticals, Inc. and Manfred Weigele, Ph.D. (3)
10.18	Unit Purchase and Technology Right of First Negotiation Agreement, dated May 5, 1994, among Genentech, Inc., ARIAD Pharmaceuticals, Inc. and ARIAD Gene Therapeutics, Inc. (3)
10.19+	Amendment No. 2, dated June 30, 1994, to Executive Employment Agreement between ARIAD Pharmaceuticals, Inc. and Harvey J. Berger, M.D. (5)
10.20+	ARIAD Pharmaceuticals, Inc. 1994 Stock Option Plan for Non-Employee Directors. (5)
10.21	Collaborative Research and License Agreement, dated November 5, 1995, between Roussel Uclaf and ARIAD Pharmaceuticals, Inc. (7)
10.22	License Agreement dated as of September 12, 1996 between Mochida Pharmaceuticals Co., Ltd. and ARIAD Pharmaceuticals, Inc. (8)
10.23	Joint Venture Agreement dated as of February 14, 1997 between Genovo, Inc. and ARIAD Gene Therapeutics, Inc. (8)
10.24	Collaborative Agreement dated as of March 4, 1997 between Incyte Pharmaceuticals, Inc. and ARIAD Pharmaceuticals, Inc. (8)
10.25+	Amendment, dated January 1, 1997, to Executive Employment Agreement between ARIAD Pharmaceuticals, Inc. and Harvey J. Berger, M.D. (8)
10.26+	Amendment, dated January, 1, 1997, to Executive Employment Agreement between ARIAD Pharmaceuticals, Inc. and Jay R. LaMarche (8)
10.27+	Amendment, dated January 1, 1997, to Executive Employment Agreement between ARIAD Pharmaceuticals, Inc. and Manfred Weigele, Ph.D. (8)
10.28+	Consulting Agreement, dated July 1, 1997, between ARIAD Pharmaceuticals, Inc. and Joan S. Brugge, Ph.D. (8)
10.29+	ARIAD Pharmaceuticals, Inc. 1997 Employee Stock Purchase Plan (8)
10.30+	Amendment to the 1991 Stock Option Plan for Employees and Consultants (8)
10.31+	Amendment to the 1994 Stock Option Plan for Non-Employee Directors (8)

10.32	Fourth Amendment to Loan and Security Agreement dated June 27, 1997 with BankBoston, N.A. as successor in interest to BayBank, N.A. (8)
10.33	License Agreement, dated July 17, 1997, between ARIAD Pharmaceuticals, Inc. and Mitotix Inc. (8)
10.34	Technology Purchase and Sale Agreement and related agreements, dated July 17, 1997, between ARIAD Pharmaceuticals, Inc. and Mitotix, Inc. (8)
10.35	ARIAD Pharmaceuticals, Inc. 1997 Executive Compensation Plan (9)
10.36+	Amendment, dated November 10, 2000, to Executive Employment Agreement between ARIAD Pharmaceuticals, Inc. and Jay R. LaMarche (15)
10.37+	Executive Employment Agreement between ARIAD Pharmaceuticals, Inc. and Lee C. Steele, dated December 15, 2000 (15)
10.38+	Executive Employment Agreement between ARIAD Pharmaceuticals, Inc. and Fritz Casselman, dated January 24, 2001 (15)
10.39	Common Stock Purchase Agreement, dated as of June 27, 2000, by and between ARIAD Pharmaceuticals, Inc. and Acqua Wellington North American Equities Fund, Ltd. (11)
10.40	Common Stock Purchase Agreement, dated as of June 27, 2000, by and between ARIAD Pharmaceuticals, Inc. and the Purchaser named therein. (11)
10.41+	Executive Employment Agreement, dated May 1, 1992, Fourth Amendment to Employment Agreement dated June 8, 2000, Third Amendment to Employment Agreement dated January 1, 1999, and Amendments to Employment Agreements dated January 1, 1997 and March 2, 1994 between ARIAD Pharmaceuticals, Inc. and John Iuliucci, Ph.D. (12)
10.42+	Executive Employment Agreement, dated August 1, 1993, Third Amendment to Employment Agreement dated June 8, 2000, and Amendments to Employment Agreements dated January 1, 1997 and March 2, 1994 between ARIAD Pharmaceuticals, Inc. and David L. Berstein, J.D. (12)
10.43	Restructuring Agreement, dated December 31, 1999, by and between Hoechst Marion Roussel (France) and ARIAD Pharmaceuticals, Inc. (**)(13)
10.44	Restructuring Agreement, dated December 31, 1999, by and among Aventis Pharmaceuticals, Inc., the Hoechst-Ariad Genomics Center, LLC and ARIAD Pharmaceuticals, Inc. (**)(13)
10.45	Settlement and Repurchase Agreement by and among ARIAD Pharmaceuticals, Inc., Promethean Investment Group LLC and HFTP Investments, LLC, dated as of January 14, 2000. (14)
21.1	Subsidiaries of the Company. (3)
23.1	Consent of Deloitte & Touche LLP (15)

Notes to Exhibits:

(+)	Management Contract or Compensatory Plan or Arrangement
(**)	Confidential treatment has been requested from the Securities and Exchange Commission.
(1)	Incorporated by reference to Registration Statement on Form 10 of the Company filed with the Securities and Exchange Commission on June 25, 1993.
(2)	Incorporated by reference to Form 10-K of the Company for the fiscal year ended December 31, 1993 filed with the Securities and Exchange Commission on April 15, 1994.
(3)	Incorporated by reference to Registration Statement on Form S-1 of the Company (No. 33-76414) filed with the Securities and Exchange Commission on March 11, 1994.
(4)	Incorporated by reference to Form 8-A of the Company filed with the Securities and Exchange Commission on June 19, 2000.
(5)	Incorporated by reference to Form 10-K of the Company for the fiscal year ended December 31, 1994 filed with the Securities and Exchange Commission on March 30, 1995.
(6)	Incorporated by reference to Registration Statement on Form S-3 of the Company (No. 333-38664) filed with the Securities and Exchange Commission on June 23, 2000.
(7)	Incorporated by reference to Form 10-K of the Company for the fiscal year ended December 31, 1995 filed with the Securities and Exchange Commission on March 15, 1996.
(8)	Incorporated by reference to Forms 10-Q of the Company filed with the Securities and Exchange Commission on May 12, 1997, August 12, 1997 and November 12, 1997.
(9)	Incorporated by reference to Form 10-K of the Company for the fiscal year ended December 31, 1997 filed with the Securities and Exchange Commission on March 5, 1998.
(10)	Incorporated by reference to Form 8-K of the Company filed with the Securities and Exchange

Commission on November 12, 1998.

(11) Incorporated by reference to Form 8-K of the Company filed with the Securities and Exchange Commission on July 7, 2000.

(12) Incorporated by reference to Form 10-Q of the Company filed with the Securities and Exchange Commission on August 10, 2000.

(13) Incorporated by reference to Form 8-K of the Company, dated December 31, 1999 and filed with the Securities and Exchange Commission on January 18, 2000.

(14) Incorporated by reference to Form 8-K of the Company, Dated January 14, 2000 and filed with the Securities and Exchange Commission on January 18, 2000.

(15) Filed herewith.