

18-02085-E

foiapa

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**From:** Mark Edwards <medwards@biosciadvisors.com>  
**Sent:** Friday, January 19, 2018 5:29 PM  
**To:** foiapa  
**Subject:** FOIA Request



I would like to request access to Exhibit 10.11 to the Form S-1 and amendments thereto, filed by SenesTech, Inc. on 9/21/2016. Confidential treatment was sought as to certain portions when initially filed with the Commission.

In the event that confidential treatment has not expired or has been extended, I further request that you send me the expiration date(s) from the relevant CT order(s) so I will know when I should resubmit my request.

I authorize up to \$61 in search and retrieval fees. Please send the exhibit(s) by PDF if possible.

Sincerely,

Mark

Mark G Edwards  
Managing Director  
Bioscience Advisors  
2855 Mitchell Dr., Suite 103  
Walnut Creek, CA 94598  
[medwards@biosciadvisors.com](mailto:medwards@biosciadvisors.com)  
925 954-1397



UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
STATION PLACE  
100 F STREET, NE  
WASHINGTON, DC 20549-2465

Office of FOIA Services

February 01, 2018

Mr. Mark G. Edwards  
Bioscience Advisors  
2855 Mitchell Dr., Suite 103  
Walnut Creek, CA 94598

RE: Freedom of Information Act (FOIA), 5 U.S.C. § 552  
Request No. 18-02085-E

Dear Mr. Edwards:

This letter is in response to your request, dated January 19, 2018 and received in this office on January 22, 2018, for information regarding Exhibit 10.11 to the Form S-1 and amendments thereto, filed by SenesTech, Inc. on September 21, 2016.

The search for responsive records has resulted in the retrieval of 14 pages that may be responsive to your request. They are being provided to you with this letter in their entirety at no cost.

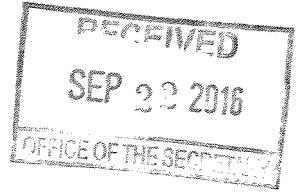
If you have any questions, please contact me at [Luetkenhausj@SEC.GOV](mailto:Luetkenhausj@SEC.GOV) or (202) 551-8352. You may also contact me at [foiapa@sec.gov](mailto:foiapa@sec.gov) or (202) 551-7900. You also have the right to seek assistance from Aaron Taylor as a FOIA Public Liaison or contact the Office of Government Information Services (OGIS) for dispute resolution services. OGIS can be reached at 1-877-684-6448 or [Archives.gov](http://Archives.gov) or via e-mail at [ogis@nara.gov](mailto:ogis@nara.gov).

Sincerely,

A handwritten signature in black ink that reads "Jason Luetkenhaus".

Jason Luetkenhaus  
Lead FOIA Research Specialist

Enclosures



**SERVICES AGREEMENT**

The present SERVICES AGREEMENT (hereinafter the "Agreement") is made effective as of this day of January 21, 2016 (the "Effective Date"), by and between SenesTech, Inc, 3140 N. Caden Court, Suite 1 Flagstaff, Arizona, United States (hereinafter "SenesTech"); Bioceres, Inc., a Delaware corporation and wholly-owned subsidiary of Bioceres S.A. with offices at Ocampo 210 Bis, Predio CCT, Rosario (2000), Argentina (hereinafter "Bioceres") and INMETS.A., an Argentinean corporation with a registered office at Ocampo 210 bis, Rosario, Santa Fe, Argentina, (hereinafter "INMET) and jointly with SenesTech the Service Providers (hereinafter "Providers").

SenesTech, Bioceres and Providers shall individually or collectively be referred to as a "Party" or the "Parties".

**WHEREAS**, SenesTech is a life science company that has developed a technology for managing animal pest populations through fertility control,

**WHEREAS**, Bioceres is a fully-integrated agricultural technology company with a strong leadership position in South America.

**WHEREAS**, INMET is a industrial biotechnology company with expertise on the production of industrial enzymes and fermentation technologies;

**WHEREAS**, SenesTech and Bioceres wish Providers to conduct services including but not limited to research and development activities designed to obtain an efficient production method for synthetic triptolide based on metabolic engineering of Bacillus subtilis strains, as described in Exhibit B herein;

**WHEREAS**, SenesTech and Bioceres desire to establish one or more strategic business relationships between them and to enter into a business relationship under the form of a joint venture company for the development and commercialization of synthetic triptolide (hereinafter the "NewCo").

**WHEREAS**, in accordance with the business of the NewCo, SenesTech and Bioceres undertake that the services provided under this Agreement could be funded as contributed services by SenesTech and Bioceres for the benefit of the NewCo, and

**NOW, THEREFORE**, for and in consideration of the promises and other obligations reflected herein, the Parties agree as follows:

**Article 1. Definition**

The following capitalized terms shall have the meaning ascribed to them below:

By "Affiliates", the Parties mean any corporation or other entity which directly or indirectly:

- (a) Controls;
- (b) is Controlled by; or
- (c) is under the common Control of the Controller of, such Party.



In this definition, "Control" (including its cognates such as "Controlling" or "Controls" or "Controller") means in respect of any Person the ownership directly or through one or more intermediate entities of 50% or more of the voting shares in a company or, in respect of any other legal entity, ownership of 50% or more of the equity in the legal entity or the ability, directly or through one or more intermediate entities, to direct or cause the direction of the management and policies of such Person including without limitation the ability to select 50% or more of the board of directors of such Person (or functionally similar group). A group of Persons shall be deemed to Control another Person if (a) such group collectively has rights that if held by a single Person would constitute Control of such other Person hereunder; and (b) the Persons in such group have agreed to coordinate their behavior by contract with respect to the exercise of such rights.

By "SenesTech Material", the Parties mean the material listed in Exhibit A hereinafter enclosed, any and all mutants, constituents, progeny and derivatives of such materials (including, but not limited to, substances that constitute a functional subunit of or product expressed by the materials, such as subclones, protein expressed from DNA, RNA, or corresponding sequence information, cell lines, plants, seeds, and parts thereof expressing such materials) and related proprietary information, to be provided by SenesTech and/or its affiliates to Providers for the sole purpose of Providers performing the Services, in accordance with and pursuant to this Agreement.

By "Facility" the Parties mean the Providers' facilities located at Ocampo 210 bis, Rosario, Argentina; and the other trial facilities where the Providers and Providers' subsidiary, contractor or employee shall perform the Services;

By "Intellectual Property Rights, the Parties mean all intellectual property including but not limited to:

- (a) patents, pending applications for patents, and rights to apply for patents in any part of the world;
- (b) copyrights, design rights, Internet domain names, and database rights, whether registered or unregistered, and software;
- (c) pending trademark and service mark applications, registered trademarks and service marks, registered designations of origin, unregistered trademarks and service marks, including common law trademarks and service marks, rights to trade dress and company names, and in each case with any and all associated goodwill;
- (e) genetic material;
- (f) inventions and related improvements, if any, processes, designs, formulae, trade secrets, know-how, industrial models, confidential technical and business information, manufacturing, engineering and technical drawings, and product specifications, if any;
- (g) reissues, divisions, continuations, continuations-in-part, renewals, extensions and registrations or foreign counterparts of any of the foregoing; and
- (h) rights to claim priority, reciprocity, or national treatment.

By "Person", the Parties mean an individual, corporation, partnership, trust, limited liability company or other entity, including without limitation a governmental authority.

By "Results", the Parties mean the results of the research and development Services, including all deliverables, improvements, discoveries, development, original works of authorship, trade secrets, information, material, know-how, results, inventions, and/or other matter capable of being the subject of Intellectual Property Rights, whether or not patentable, which is conceived, first reduced to practice or writing, and/or developed in whole or substantial part in the course of the Services and in performing under the Work Plan, all of which will be jointly owned by SenesTech and Bioceres or the NewCo.



By "Services", the Parties mean the services to be provided by Providers under this Agreement, which consist in performing research and development activities designed to obtain an efficient production method for synthetic triptolide based on metabolic engineering of *Bacillus subtilis* strains, as, as further defined in the present Agreement and in more detail the Work Plan;

By "Third Party", the Parties mean any individual, sole proprietorship, partnership, limited partnership, limited liability partnership, corporation, limited liability company, business trust, joint stock company, trust, unincorporated association, joint venture or other similar entity or organization, other than SenesTech, SenesTech's Affiliates, Bioceres, Bioceres' Affiliate or Providers or Providers' Affiliates.

By "Work Plan" means the research and development plan established by the Parties and attached to this Agreement as Exhibit B.

The following definitions apply unless the context requires otherwise:

- (a) the singular includes the plural and conversely;
- (b) headings are for convenience only and do not affect interpretation;
- (c) a gender includes all genders;
- (d) if a word or phrase is defined, its other grammatical forms have a corresponding meaning.

## **Article 2. Conditions for the supply of the Material**

SenesTech will provide INMET with the SenesTech Material and INMET shall use the SenesTech Material in strict compliance with the following terms and conditions:

- 2.1 INMET shall use the SenesTech Material solely for the purpose of conducting the Services, and as defined under the Work Plan.
- 2.2 The transfer of the SenesTech Material to INMET shall not in itself constitute any grant, option or license to Providers under any patent, trade secret or other rights now or hereinafter held by or under the control of SenesTech other than the non-exclusive, non-transferable, revocable right to use the SenesTech Material to perform the Services. Risk of loss of the SenesTech Material shall be transferred to INMET upon reception of the SenesTech Material to the Facility.
- 2.3 INMET shall use the SenesTech Material in compliance with all applicable laws and regulations. INMET acknowledges that it is fully aware of the nature of the Material and assumes full responsibility for performing its tasks under this Agreement in accordance with any and all laws and regulations applicable at the Facility.
- 2.4 INMET shall not reverse-engineer, transfer, sell, assign or otherwise dispose of the SenesTech Material, including parts or sequences thereof, without the prior written agreement of SenesTech.
- 2.5 The SenesTech Material, the genetic characteristics of such SenesTech Material shall be used only by the personnel of INMET, or INMET's subsidiary, contractor or employee, who has a need to use the SenesTech Material, for the purpose of performing the Services and shall not be provided to any Third Party. INMET further agrees to use all best efforts to ensure adequate security measures are in place to protect the SenesTech Material against any Third Party's access. The SenesTech Material shall be used in the Facility only and shall not be transferred outside the Providers's Facility without the prior written approval of SenesTech.
- 2.6 INMET shall bind any INMET's subsidiary, contractor or employee to comply with terms at least as



stringent as the terms herein and shall be duly responsible for its INMET's subsidiary, contractor or employee compliance / non-compliance with the terms herein.

### **Article 3. Services.**

- 3.1 Performance of Services. Providers will provide the Services to SenesTech and Bioceres as described in detail in the Work Plan..
- 3.2 Work Plan. The Work Plan as established by the Parties is attached hereto as Exhibit B. In general, the Work Plan provides:
- 3.2.1 a description of the Services performed by Providers in sufficient detail to enable a reasonable determination of the value of such Services in accordance with Article 7 of this Agreement;
- 3.2.2 the approximate date upon which such Services are estimated to be initiated and completed;
- 3.2.3 when its deliverables are completed according to the Services; and
- 3.2.4 any other terms and conditions agreed upon by the Parties.

### **Article 4. Licenses - Ownership of Results**

- 4.1. SenesTech and its Affiliate and Bioceres' and its Affiliate will each grant a non-royalty-bearing license to Providers to its Intellectual Property as may be required to fulfill the Services within the Territory on a non-exclusive basis, PROVIDED however that such Intellectual Property, shall remain the property of each Party.
- 4.2. The Parties agree that the Results will be jointly owned by SenesTech and Bioceres, or NewCo. Providers hereby irrevocably assign, and shall ensure that any member of its staff assigns (if applicable), all Intellectual Property Rights in such Results for the entire duration of such Intellectual Property Rights. Compensation for the assignment of the Intellectual Property Rights is included in the financial compensation paid by SenesTech and Bioceres in Article 7.
- 4.3. Providers shall not make or apply for, directly or indirectly, any Intellectual Property Rights relating to or in connection with the Results. Providers shall communicate to SenesTech and Bioceres the Results, on a regular basis or upon SenesTech's and Bioceres's request or in accordance with any schedule agreed to between the Parties in the Exhibit B hereto. Providers shall communicate to SenesTech and Bioceres all the information and other elements, technical or administrative, that SenesTech and Bioceres may reasonably require for any Intellectual Property Rights in relation to the Results.

### **Article 5. Duration**

The present Agreement shall enter into force as from the Effective Date and remain effective for a period of two years (the "Term"). The Term may be extended upon mutual agreement of the Parties as evidenced in a written amendment to that effect.

### **Article 6. Obligation to provide information**



On a confidential basis and upon reasonable written request of SenesTech and Bioceres, Providers shall inform SenesTech and Bioceres on (i) the progress of the Services, (ii) each Result obtained, once per calendar quarter and at the end of the Services, Providers will make a confidential written report to SenesTech and Bioceres with detailed information on each Result obtained.

#### **Article 7. Financial Compensation**

7.1 In consideration for the due and proper performance of the Services by Providers, SenesTech and Bioceres undertake to pay the total cost of the budgeted activities as detailed in Exhibit B, proportionately to ownership in NewCo. First payment will not be due until the base genetic SenesTech Material is available to begin Services.

Any additional fees will need to be pre-approved in writing by SenesTech and Bioceres.

7.2 Services shall be compensated on a monthly basis, in advance, based on an approved budget.

#### **Article 8. Undertakings, Representations and Warranties**

8.1 Any SenesTech Material is provided "as-is" and Providers, SenesTech and Bioceres makes no warranties of any kind, either express or implied, including but not limited to warranties of merchantability, fitness for a particular purpose. In no event shall a Party be liable for incidental or consequential damages of any kind, including economic damage or injury to property and lost profits, regardless of whether the other Party shall be advised, shall have other reason to know, or in fact shall know of the possibility of the foregoing.

8.2 Providers agrees to perform the Services for the exclusive benefit of SenesTech and Bioceres, or NewCo, in a highly professional and ethical manner. Providers undertake to comply with all applicable laws, regulations and professional standards. Providers certifies and warrants it has obtained and will maintain all necessary authorizations and has proceeded to any mandatory declaration and to proceed forthwith with the payment of any taxes, duties, levies, social insurance, and of any other contributions which may be levied, payable or, as may be required by applicable laws and regulations and in relation to the performance of the Services.

8.3 Providers represents warrants and covenants that it has full power and authority to enter into and perform the Agreement and that, as of the date of signature of the Agreement, it is not bound by any obligation or commitment with a Third Party that could conflict with the terms of the Agreement or otherwise impact the arrangement set forth herein in this Agreement.

8.4 SenesTech represents warrants and covenants that it has full power and authority to enter into and perform the Agreement and that, as of the date of signature of the Agreement, it is not bound by any obligation or commitment with a Third Party that could conflict with the terms of the Agreement or otherwise impact the arrangement set forth herein in this Agreement.

8.5 Bioceres represents warrants and covenants that it has full power and authority to enter into and perform the Agreement and that, as of the date of signature of the Agreement, it is not bound by any obligation or commitment with a Third Party that could conflict with the terms of the Agreement or otherwise impact the arrangement set forth herein in this Agreement.



- 8.6 Providers warrants that the Results delivered to SenesTech and Bioceres within the frame of the Services will be free from any liens, claims and encumbrances.

#### **Article 9. Dispatching of the Material**

At the receipt by SenesTech of a signed original of this Agreement, SenesTech shall send the SenesTech Material to Providers, at the Providers' Facility.

Any SenesTech Material under this Agreement shall be sent free of charge by SenesTech to Providers' Facility and if returned, shall be returned at Providers' sole costs and responsibility.

Providers undertakes to provide SenesTech with all reasonable assistance as may be necessary for SenesTech to apply for and/or obtain any and all governmental or other authorizations, licenses and/or permits required for the delivery of the SenesTech Material to Providers pursuant to this Agreement.

#### **Article 10. Confidentiality**

- 10.1 During the term of this Agreement and for a period of five (5) years after its termination or expiration, Providers undertakes to keep strictly confidential and not to publish or disclose to a Third Party, all the information which is transmitted visually, orally, in writing, in electronically, or in any and all other manner by and proprietary to SenesTech, Bioceres and/or its Affiliates pursuant to and in accordance with this Agreement, and/or relating to this Agreement, the SenesTech Material, the Services and the Results (the "Confidential Information") without the prior written consent of SenesTech and Bioceres. Nothing herein shall be construed as a restriction for a Party to disclose its own proprietary confidential information.
- 10.2 Providers shall only be entitled to disclose, on a need to know basis for the purpose of the Services, Confidential Information to its directors or employees, (collectively the "Authorized Recipients"); provided that Providers has previously bound such Authorized Recipients by confidentiality and restricted use obligations at least as stringent than those set forth in this Agreement. Providers shall be responsible towards SenesTech and Bioceres for any breach by its Authorized Recipients of any such confidentiality and restricted use obligations.
- 10.3 Notwithstanding Article 10.1, Providers may use or disclose those information to the extend it can demonstrate, by clear and convincing evidence, that such information:
- (a) at the time of disclosure or acquisition is generally available to the public, or after the time of disclosure or acquisition is generally available to the public through no wrongful act or omission of Providers and its Authorized Recipients, or
  - (b) was in the lawful possession and at the free disposal of Providers prior to disclosure by SenesTech and/or Bioceres, as evidenced by written records then in the possession of Providers, or
  - (c) is rightfully made available Providers by a Third Party not bound by confidentiality or restricted use obligations, or





- (d) is independently developed by Providers without use of the SenesTech Material and information imparted by SenesTech, or
- (e) is disclosed by Providers in order to comply with the requirements of applicable law, governmental regulation or definitive court order, provided that Providers shall first notify SenesTech and Bioceres of such required disclosure and of each Confidential Information concerned and shall limit such disclosure as far as possible under applicable law. Such disclosure shall, however, not relieve Providers of its other obligations contained herein.

10.4 Providers agrees not to publish any Result without prior written consent from SenesTech and Bioceres.

#### **Article 11. Termination**

- 11.1 SenesTech and Bioceres may terminate this Agreement at any moment and for any reason by giving written notice to Providers.
- 11.2 Upon termination or expiration of this Agreement, Providers' right to use the SenesTech Material and the Results shall cease. Any SenesTech Material, Results remaining in the possession of Providers at such date will be destroyed or returned to SenesTech, Bioceres or to NewCo (at SenesTech and Bioceres' decision) promptly upon the request of SenesTech, Bioceres or to NewCo.
- 11.3 The termination by SenesTech and by Bioceres to the Agreement does not restrict in any manner the duties or liabilities incurred or contracted by SenesTech and by Bioceres that, at the time of such termination, has already accrued to INMET.
- 11.4 No termination or expiration of this Agreement shall relieve either Party of its obligations set forth in 4, 7, 8, 10, 11, and 12 and such sections shall survive.

#### **Article 12. Governing law**

The present Agreement is governed by the laws of the state of Delaware without giving effect to the principles of conflicts of laws.

Any dispute arising between the Parties in connection with construing and performance or non performance of the present Agreement shall be referred, failing agreement between the Parties, to the competent court of the state of Delaware.

#### **Article 13. Miscellaneous**

- 13.1 Exhibit(s) hereinafter enclosed form an integral part of this Agreement and are hereby incorporated in the Agreement.
- 13.2 This Agreement (a) may not be assigned or transferred by Providers without the prior written consent of SenesTech and Bioceres, (b) may not altered amended, or modified in whole or in part, except by prior written agreement signed by the Parties. However, this Agreement contemplated that shall be contributed by SenesTech and Bioceres to Newco when is established.



- 13.3 If any provision or provisions of this Agreement shall be held to be invalid, illegal, or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.
- 13.4 Failure to enforce any provision of this Agreement does not constitute waiver of any term hereof.
- 13.5 Force Majeure. Each Party shall be excused from any breach of this Agreement that is caused by a change of government regulation, war, strike, act of nature, or other similar circumstance deemed outside the reasonable control of such Party ("Force Majeure Event"). A Party claiming to be unable to perform its obligations under this Agreement shall promptly inform the other Party (the "Non-Prevented Party") of the occurrence, nature, extent, effect and likely duration of such Force Majeure Event, and shall use all reasonable endeavors to minimize the effect of such event on the performance of its obligations under this Agreement and shall forthwith after the cessation of the event, notify the other Party thereof and resume full performance of its obligations under this Agreement. If the Force Majeure Event continues or is expected to continue for more than thirty (30) days from the date of the notification as mentioned above, the Parties shall consult each other in order to find a mutually acceptable solution for the continuation of the Agreement, during and following the cessation of the Force Majeure Event. If the Parties fail to reach an agreement following the good faith negotiation, then this Agreement shall be terminated upon prior written notice given by the Non-Prevented Party.
- 13.6 Any notice of communication to be given hereunder or for the purpose hereof shall be duly given by either Party if sent by prepaid registered post or by any other method of delivery capable of providing reasonable proof of receipt thereof and sent to the other Party hereto, as follow:

**If to SenesTech:**

SenesTech, Inc.  
Attn: Loretta P. Mayer  
3140 N. Caden Court, Suite 1  
Flagstaff, Arizona, United States

**If to Providers:**

INMET S.A.  
Attn: Gustavo Schujman  
Ocampo 210 Bis  
Rosario (2000)  
Argentina

**If to Bioceres:**

Bioceres Inc. wholly-owned subsidiary of  
Bioceres S.A.  
Attn: Federico Trucco  
Ocampo 210 Bis  
Rosario (2000)  
Argentina

SenesTech, Inc.  
Attn: Cheryl Dyer  
3140 N. Caden Court, Suite 1  
Flagstaff, Arizona, United States

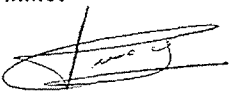
- 13.7 This Agreement may be executed simultaneously in four counterparts, each of which shall be deemed an original.



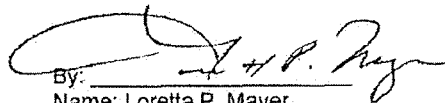
13.8 In the event of any inconsistent or incompatible provisions, the present document shall take precedence, followed by the Exhibits to this Agreement. Any provision(s) of an exhibit or annexures to the present document, which object is to exclude or otherwise limit the responsibility of a Party beyond the provisions of the present Agreement shall be null and void.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives as of the day and year written above.

For Inmet

  
By: \_\_\_\_\_  
Name: Federico Trucco  
Title: Legal Representative

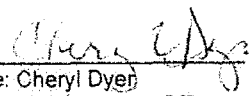
For SenesTech, Inc.

  
By: \_\_\_\_\_  
Name: Loretta P. Mayer  
Title: CEO

For Bioceres Inc.

  
By: \_\_\_\_\_  
Name: Federico Trucco  
Title: President & CEO

For SenesTech, Inc. (as Providers)

  
By: \_\_\_\_\_  
Name: Cheryl Dyer  
Title: Chief Research Officer



**Exhibit A**  
**SenesTech Material**



Exhibit B

Work Plan & Budget

Providers shall perform the following Services:

1. INMET

Activity	Year 1	Year 2	Deliverable
<b>A. Pathway identification</b>			
A.1. Transcriptome mining	█		Candidate gene list
A.2. Complete cDNA obtainment	█		Gene sequences
<b>B. Strain construction</b>			
B.1. [GGPP] pathway genes design & synthesis	█		Synthetic genes
B.2. Triptolide pathway genes design & synthesis	█	█	Synthetic genes
B.3. Gene cloning		█	Plasmid library
B.4. Construction of strains		█	Strain collection
<b>C. Product characterization</b>			
C.1. Characterization of [terpenes]		█	Chemical structure data
C.2. Quantification of [terpenes]		█	Production yield
<b>D. Strain optimization</b>			
D.1. Metabolic profile of producer strain		█	Improved strains
D.2. Knock-down of selected pathways		█	Optimized strains
D.3. Overexpression of selected pathways		█	
<b>E. Triptolide Purification</b>			Pure triptolide at laboratory scale
<b>F. Scale up</b>			Pure triptolide at pilot scale

X

X

X

INMET to perform the services according to industry-accepted standards

**Budget**

Tentative costs are indicated in '000 US\$ dollars.

Services & consumables

Bioinformatics  
cDNA filling

[ 20  
16 ]

Synthetic genes  
Molecular biology kits & reagents

[ 53  
29 ]

X



Disposable material	30
General reagents	24
RMN analysis	20
HPLC-MS/MS analysis	15
GC-MS analysis	11
Solvents	15
Lab fermentation	5
Scale up	70
Replacements & equipment maint.	18
Small lab equipment	12

X



Subtotal

[ 340 ]

X

Human resources + overhead

Three technicians at full dedication; two platform managers and one lab manager at 50% dedication; unit manager at 15% dedication. Subtotal: [380]

X

**Total budget: 720.**

## 2. SenesTech

## BIOASSAYS for TRIPTOLIDE POTENCY

For each sample or batch to be tested there is a graded increase in effort, money and time to ascertain potency or efficacy that is essential for ContraPest to work and have market value

1. Run high pressure liquid chromatography (HPLC) analysis of triptolide content
  - a. If purity is less than 90% run simple organic extractions, chloroform-methanol or ethyl acetate extractions
  - b. Dry off organic solvents and reconstitute to reanalyze on HPLC, must be greater than 90% pure
2. Make ContraPest bait with candidate triptolide and conduct rapid screen for triptolide effect on male rat testes weight
  - a. In developing ContraPest we discovered that male rats are very sensitive to dosing so that within [15 nights] of bait takes the testes weight is significantly [less by 30% to 40%]
  - b. Provide ContraPest to adult male rats for [15 nights] morning of [16<sup>th</sup> day] euthanize rats, weigh testes, epididymis and body and express as testis and epididymis index
3. Before scaling up a fermentation and/or purchasing kilogram quantities from a triptolide source, conduct a feed and breed assessment
  - a. Provide bait for [5 nights] prebait and [15 nights] CP bait, put mating pairs together for [21 days] and observe female rats for another [24 days] to determine if pregnant and/or give birth
  - b. Once females and males are separated, euthanize the males and determine testis, epididymis indices
  - c. Any pups born will be euthanized at post natal [day 4]
  - d. End of experiment euthanize the females, collect ovaries, fix and bank tissue

X

X

X

Assessment 1: cost \$200 for duplicate measurements, time 2-3 days

Assessment 2: cost \$750 per group of 4 male rats housed for 20 days (retired breeders, per diem, ContraPest bait, necropsy), time 2-3 weeks

Assessment 3: cost \$2200 per group of 8 rats, 4 of each sex, for 65 days, due to experiment being 3 times longer than assessment 2 and more hands on procedures during necropsy, time 2 months



FIRST DRAFT - CONFIDENTIAL

