



DIVISION OF
CORPORATION FINANCE

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

August 10, 2011

Via E-mail

Mr. Michael K. Wilhelm
President and Chief Executive Officer
IR Biosciences Holdings, Inc.
8777 E. Via de Ventura
Suite 280
Scottsdale, AZ 85258

Re: IR Biosciences Holdings, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2010
Filed May 24, 2011
File No. 033-05384

Dear Mr. Wilhelm:

We have reviewed your filing and have the following comments.

Please respond to this letter within ten business days by amending your filing or by advising us when you will provide the requested response. If you do not believe a comment applies to your facts and circumstances, please tell us why in your response. Please furnish us a letter on EDGAR under the form type label CORRESP that keys your responses to our comments.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 10-K for the Fiscal Year Ended December 31, 2010

Item 9A. Controls and Procedures, page 70

1. Please file an amendment to your filing to provide management's annual report on internal controls over financial reporting. Consistent with the requirements set forth in Item 308(a) of Regulation S-K, the report must contain:
 - A statement of management's responsibility for establishing and maintaining adequate internal control over financial reporting for the registrant;
 - A statement identifying the framework used by management to evaluate the effectiveness of the registrant's internal control over financial reporting; and
 - Management's assessment of the effectiveness of the registrant's internal control over financial reporting as of the end of the registrant's most recent fiscal year, including a statement as to whether or not internal control over financial reporting is effective. This discussion must include disclosure of any material weakness in the registrant's internal control over financial reporting identified by management. Management is not permitted to conclude that the

registrant's internal control over financial reporting is effective if there are one or more material weaknesses in the registrant's internal control over financial reporting.

Report of Independent Registered Public Accounting Firm

2. We note your statement that "Due to financial constraints, the filing does not include an independent auditor's report and the financial statements are unaudited." Pursuant to Rule 8-02 and Article 2 of Regulation S-X, you are required to file audited financial statements as well as an audit report covering these statements. Please file an amended Form 10-K that includes audited financial statements for the fiscal years ended December 31, 2010 and December 31, 2009 and an audit report covering both of those fiscal years.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

You may contact Christine Allen, Staff Accountant, at (202) 551-3652 or Melissa N. Rocha, Accounting Branch Chief, at (202) 551-3854 if you have questions regarding the comments. In this regard, do not hesitate to contact me at (202) 551-3679.

Sincerely,

/s/ Jim B. Rosenberg

Jim B. Rosenberg
Senior Assistant Chief Accountant