

Mail Stop 6010

May 5, 2008

IR Biosciences Holdings, Inc.
8767 E. Via De Ventura, Suite 190
Scottsdale, AZ 85258
Attn: John N. Fermanis

Re: IR Biosciences Holdings, Inc.
Preliminary proxy statement filed April 29, 2008
File No. 033-05384

Dear Mr. Fermanis:

This is to advise you that we have monitored the subject filing solely with respect to the issue raised in the following comments.

1. We note your discussion of an increase in the number of authorized shares of common stock of the company. Please expand the disclosure to state whether or not you have any plans, agreements, arrangements or understandings to issue any additional shares of common stock.
2. Regarding your proposal to increase the number of shares under your stock plan, please provide the table required by Item 10 of Schedule 14A if the benefits or amounts are determinable.

As appropriate, please amend your filing in response to this comment. If you disagree, we will consider your explanation as to why a comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation.

Any questions should be directed to Michael Reedich, Special Counsel, at (202) 551-3612.

Sincerely,

Jeffrey Riedler
Assistant Director