



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

DIVISION OF
CORPORATION FINANCE

March 25, 2011

Young K. Sohn
Chief Executive Officer and President
INPHI Corporation
3945 Freedom Circle, Suite 1100
Santa Clara, California 95054

**Re: INPHI Corporation
Registration Statement on Form S-1
Filed March 7, 2011
File No. 333-172635**

Dear Young Sohn:

We have limited our review of your registration statement to those issues we have addressed in our comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. Where you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

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

Prospectus Summary, page 1

INPHI Corporation, page 1

1. We note your reference in the first sentence of the second paragraph to the “informal collaborative discussions” you have on an ongoing basis with “industry and technology leaders such as Advanced Micro Devices, Inc., Alcatel-Lucent, Huawei Technologies Co., Ltd. and Intel Corporation.” As it is not appropriate to highlight these entities in your prospectus summary when you do not have any agreements in place, please revise to delete this statement.

Principal and Selling Stockholders, page 100

2. Please complete the selling shareholder table prior to requesting acceleration of the effective date.

Exhibit Index

3. We note your application for confidential treatment. We will provide any comments on the request in a separate letter. Please resolve any comments on your application before requesting acceleration of the effective date of this registration statement.
4. We note that you intend to file exhibits 1.1 and 5.1 by amendment. Please ensure that you file these exhibits with sufficient time for staff review prior to effectiveness.

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 Act of 1933 and all applicable Securities 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.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

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Please contact Mary Beth Breslin at (202) 551-3625 or Daniel Morris, Special Counsel, at (202) 551-3314 with any questions.

Sincerely,

Amanda Ravitz
Assistant Director

cc (via facsimile): Jorge del Calvo, Esq. – Pillsbury Winthrop Shaw Pittman LLP