



NDA 21-743/S-007

OSI Pharmaceuticals, Inc.  
Attention: Christine Boisclair  
Vice President, Global Regulatory Affairs  
41 Pinelawn Road  
Melville, NY 11747

Dear Ms. Boisclair:

Please refer to your supplemental new drug application dated and received June 30, 2006, submitted under section 505(b) of the Federal Food, Drug, and Cosmetic Act for Tarceva (erlotinib).

We acknowledge receipt of your submissions dated February 23, and March 6, 2007.

This supplemental new drug application provides for package insert changes to Clinical Pharmacology, Precautions-adding a renal failure section, Adverse Reactions, and Dosage and Administration to "strengthen the language in the package insert".

We completed our review of this application. This application is approved, effective on the date of this letter, for use as recommended in the enclosed agreed-upon labeling text.

Within 21 days of the date of this letter, submit content of labeling [21 CFR 314.50(1)] in structured product labeling (SPL) format, as described at <http://www.fda.gov/oc/datacouncil/spl.html>, that is identical in content to the enclosed labeling text. Upon receipt and verification, we will transmit that version to the National Library of Medicine for public dissemination.

The final printed labeling (FPL) must be identical to the enclosed labeling (text for the package insert).

Please submit an electronic version of the FPL. Alternatively, you may submit 20 paper copies of the FPL as soon as it is available but no more than 30 days after it is printed. Individually mount 15 of the copies on heavy-weight paper or similar material. For administrative purposes, designate this submission "**FPL for approved supplement NDA 21-743/S-007.**" Approval of this submission by FDA is not required before the labeling is used.

We also refer to your submissions dated November 30, 2005, and December 21, 2005, reporting on the following postmarketing study commitments.

4. OSI agrees to conduct a study to assess the ability of dose adjustment to compensate for the large decrease in erlotinib AUC seen when TARCEVA is co-administered with a strong enzyme inducer.

**STUDY DESCRIPTION:** Population PK analysis will be performed on the data from the existing study (NP16638) which compared erlotinib PK in healthy male subjects who were administered rifampicin over a 7 day period prior to a single 150 mg dose of Tarceva, to the erlotinib PK following a single 150 mg dose of Tarceva in subjects who did not receive rifampicin. An adjusted dose of Tarceva will be determined for subjects receiving rifampicin that would result in comparable erlotinib plasma exposure, and the study repeated to evaluate the impact of the dose adjustment on erlotinib exposure.

**Protocol submission date:** February 2005

**Study Start:** May 2005

**Final Report Submission:** November 2005

5. OSI agrees to completion of the ongoing midazolam drug interaction study.

**Protocol submission date:** Study already ongoing

**Study Start:** Study already ongoing

**Final Report Submission:** December 2005

We have reviewed your submissions and conclude that the above commitments were fulfilled.

The following commitments acknowledged in our November 18, 2004 letter are open:

1. **STUDY DESCRIPTION:** A double-blind randomized Phase 3 study to evaluate the efficacy of Tarceva or placebo following 4 cycles of platinum-based chemotherapy in patients with histologically documented advanced or recurrent (stage IIIB and not amenable for combined modality treatment) or metastatic (Stage IV) non-small cell lung cancer (NSCLC) who have not experienced disease progression or unacceptable toxicity during chemotherapy. The primary endpoint will be PFS. The study will also be sized to detect a realistic difference in survival. For eligibility all patients must have EGFR expression status determined by Dako Kit prior to randomization. Analyses of results will include assessment of treatment effect in the subgroup with EGFR expression status positive and the subgroup with EGFR expression status negative.

**Protocol submission date:** March, 2005

**Study Start:** June, 2005

**Final Report Submission:** December, 2008

2. **STUDY DESCRIPTION:** A randomized Phase 3 study to evaluate the efficacy of Tarceva or chemotherapy (Alimta or Taxotere) following 4 cycles of platinum-based chemotherapy in patients with histologically documented advanced or recurrent (stage IIIB and not amenable for combined modality treatment) or metastatic (Stage IV) non-

small cell lung cancer (NSCLC) who have experienced disease progression or unacceptable toxicity during chemotherapy. The primary endpoint will be overall survival (subject to FDA agreement during SPA review). For eligibility all patients must have EGFR expression status determined by Dako Kit prior to randomization. Analyses of results will include assessment of treatment effect in the subgroup with EGFR expression status positive and the subgroup with EGFR expression status negative.

**Protocol submission date:** March, 2005

**Study Start:** June, 2005

**Final Report Submission:** December, 2008

3. OSI agrees to conduct a study to determine the pharmacokinetics of erlotinib in hepatically-impaired cancer patients.

**STUDY DESCRIPTION:** The first phase will consist of an open label, single dose parallel group PK study of Tarceva in male and female cancer patients. Group A will consist of cancer patients with normal hepatic function. Group B will consist of cancer patients with hepatic insufficiency that falls into the Child Pugh score of moderate impairment (Child Pugh B). Based on the 50% CV observed for erlotinib plasma AUC and Cmax in patients, a minimum of 17 patients is required in each group in order to have 80% power to detect a 50% difference between groups. The power of this analysis may be reduced if the interpatient variability in hepatic impaired patients is greater than in patients with normal hepatic function. If a significant difference is not observed between groups after this first phase, the Phase 4 commitment will have been satisfied and further studies in hepatic impairment will not be conducted. If a significant difference is observed between the two groups, the population estimates for PK will be determined and simulations used to choose a dose adjustment strategy that will be discussed with the FDA before proceeding to the second phase.

**Protocol submission date:** February 2005

**Study Start:** May 2005

**Final Report Submission:** February 2007

6. OSI agrees to explore the contribution of non-CYP routes to the metabolism of erlotinib by conducting a review of the in vitro CYP metabolism studies submitted with the NDA filing and evaluating whether additional calculations based on these studies will clarify the contribution of CYPs to the overall clearance of erlotinib.

**Protocol submission date (if required):** February 2005

**Study Start:** May 2005

**Final Report Submission:** November 2005

**Status:** Submitted

Submit clinical protocols to your IND for this product. Submit nonclinical and chemistry, manufacturing, and controls protocols and all study final reports to this NDA. In addition, under

21 CFR 314.81(b)(2)(vii) and 314.81(b)(2)(viii), you should include a status summary of each commitment in your annual report to this NDA. The status summary should include expected summary completion and final report submission dates, any changes in plans since the last annual report, and, for clinical studies, number of patients entered into each study. All submissions, including supplements, relating to these postmarketing study commitments must be prominently labeled “**Postmarketing Study Commitment Protocol**”, “**Postmarketing Study Commitment Final Report**”, or “**Postmarketing Study Commitment Correspondence.**”

If you issue a letter communicating important information about this drug product (i.e., a “Dear Health Care Professional” letter), we request that you submit a copy of the letter to this NDA and a copy to the following address:

MEDWATCH  
Food and Drug Administration  
WO 22, Room 4447  
10903 New Hampshire Avenue  
Silver Spring, MD 20993-0002

We remind you that you must comply with reporting requirements for an approved NDA (21 CFR 314.80 and 314.81).

If you have any questions, call Paul Zimmerman, Regulatory Project Manager, at (301) 796-1489.

Sincerely,

*{See appended electronic signature page}*

Robert Justice, M.D.  
Director  
Division of Drug Oncology Products  
Office of Oncology Drug Products  
Center for Drug Evaluation and Research

Enclosure

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**This is a representation of an electronic record that was signed electronically and  
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/s/

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Robert Justice

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