

**CENTER FOR DRUG EVALUATION AND  
RESEARCH**

*APPLICATION NUMBER:*

**22-121**

**ADMINISTRATIVE and CORRESPONDENCE**  
**DOCUMENTS**



Department of Health and Human Services Food and Drug Administration  <b>PATENT INFORMATION SUBMITTED WITH THE                  FILING OF AN NDA, AMENDMENT, OR SUPPLEMENT</b>  <i>For Each Patent That Claims a Drug Substance                  (Active Ingredient), Drug Product (Formulation and                  Composition) and/or Method of Use</i>		Form Approved: OMB No. 0910-0513 Expiration Date: 07/31/06 See OMB Statement on Page 3.
		NDA NUMBER NDA 21-924
		NAME OF APPLICANT / NDA HOLDER Institut Biochimique SA (IBSA)
<i>The following is provided in accordance with Section 505(b) and (c) of the Federal Food, Drug, and Cosmetic Act.</i>		
TRADE NAME (OR PROPOSED TRADE NAME) Tirosint™		
ACTIVE INGREDIENT(S) Levothyroxine Sodium	STRENGTH(S) 12.5, 25, 50, 75, 100, 125, 150 mcg	
DOSAGE FORM Soft Capsule		
This patent declaration form is required to be submitted to the Food and Drug Administration (FDA) with an NDA application, amendment, or supplement as required by 21 CFR 314.53 at the address provided in 21 CFR 314.53(d)(4). Within thirty (30) days after approval of an NDA or supplement, or within thirty (30) days of issuance of a new patent, a new patent declaration must be submitted pursuant to 21 CFR 314.53(c)(2)(ii) with all of the required information based on the approved NDA or supplement. The information submitted in the declaration form submitted upon or after approval will be the only information relied upon by FDA for listing a patent in the Orange Book.		
For hand-written or typewriter versions (only) of this report: If additional space is required for any narrative answer (i.e., one that does not require a "Yes" or "No" response), please attach an additional page referencing the question number.		
FDA will not list patent information if you file an incomplete patent declaration or the patent declaration indicates the patent is not eligible for listing.		
For each patent submitted for the pending NDA, amendment, or supplement referenced above, you must submit all the information described below. If you are not submitting any patents for this pending NDA, amendment, or supplement, complete above section and sections 5 and 6.		
<b>1. GENERAL</b>		
a. United States Patent Number Two patent applications submitted but neither issued.	b. Issue Date of Patent	c. Expiration Date of Patent
d. Name of Patent Owner	Address (of Patent Owner)	
	City/State	
	ZIP Code	FAX Number (if available)
	Telephone Number	E-Mail Address (if available)
e. Name of agent or representative who resides or maintains a place of business within the United States authorized to receive notice of patent certification under section 505(b)(3) and (j)(2)(B) of the Federal Food, Drug, and Cosmetic Act and 21 CFR 314.52 and 314.95 (if patent owner or NDA applicant/holder does not reside or have a place of business within the United States)	Address (of agent or representative named in 1.e.)	
	City/State	
	ZIP Code	FAX Number (if available)
	Telephone Number	E-Mail Address (if available)
f. Is the patent referenced above a patent that has been submitted previously for the approved NDA or supplement referenced above?		<input type="checkbox"/> Yes <input type="checkbox"/> No
g. If the patent referenced above has been submitted previously for listing, is the expiration date a new expiration date?		<input type="checkbox"/> Yes <input type="checkbox"/> No



For the patent referenced above, provide the following information on the drug substance, drug product and/or method of use that is the subject of the pending NDA, amendment, or supplement.

<b>2. Drug Substance (Active Ingredient)</b>	
2.1 Does the patent claim the drug substance that is the active ingredient in the drug product described in the pending NDA, amendment, or supplement?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.2 Does the patent claim a drug substance that is a different polymorph of the active ingredient described in the pending NDA, amendment, or supplement?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.3 If the answer to question 2.2 is "Yes," do you certify that, as of the date of this declaration, you have test data demonstrating that a drug product containing the polymorph will perform the same as the drug product described in the NDA? The type of test data required is described at 21 CFR 314.53(b).	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.4 Specify the polymorphic form(s) claimed by the patent for which you have the test results described in 2.3.	
2.5 Does the patent claim only a metabolite of the active ingredient pending in the NDA or supplement? (Complete the information in section 4 below if the patent claims a pending method of using the pending drug product to administer the metabolite.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.6 Does the patent claim only an intermediate?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.7 If the patent referenced in 2.1 is a product-by-process patent, is the product claimed in the patent novel? (An answer is required only if the patent is a product-by-process patent.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>3. Drug Product (Composition/Formulation)</b>	
3.1 Does the patent claim the drug product, as defined in 21 CFR 314.3, in the pending NDA, amendment, or supplement?	<input type="checkbox"/> Yes <input type="checkbox"/> No
3.2 Does the patent claim only an intermediate?	<input type="checkbox"/> Yes <input type="checkbox"/> No
3.3 If the patent referenced in 3.1 is a product-by-process patent, is the product claimed in the patent novel? (An answer is required only if the patent is a product-by-process patent.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>4. Method of Use</b>	
<i>Sponsors must submit the information in section 4 separately for each patent claim claiming a method of using the pending drug product for which approval is being sought. For each method of use claim referenced, provide the following information:</i>	
4.1 Does the patent claim one or more methods of use for which approval is being sought in the pending NDA, amendment, or supplement?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4.2 Patent Claim Number (as listed in the patent)	Does the patent claim referenced in 4.2 claim a pending method of use for which approval is being sought in the pending NDA, amendment, or supplement? <input type="checkbox"/> Yes <input type="checkbox"/> No
4.2a If the answer to 4.2 is "Yes," identify with specificity the use with reference to the proposed labeling for the drug product.	Use: (Submit indication or method of use information as identified specifically in the approved labeling.)
<b>5. No Relevant Patents</b>	
For this pending NDA, amendment, or supplement, there are no relevant patents that claim the drug substance (active ingredient), drug product (formulation or composition) or method(s) of use, for which the applicant is seeking approval and with respect to which a claim of patent infringement could reasonably be asserted if a person not licensed by the owner of the patent engaged in the manufacture, use, or sale of the drug product.	
<input checked="" type="checkbox"/> Yes	



<b>6. Declaration Certification</b>	
<p><b>6.1</b> The undersigned declares that this is an accurate and complete submission of patent information for the NDA, amendment, or supplement pending under section 505 of the Federal Food, Drug, and Cosmetic Act. This time-sensitive patent information is submitted pursuant to 21 CFR 314.53. I attest that I am familiar with 21 CFR 314.53 and this submission complies with the requirements of the regulation. I verify under penalty of perjury that the foregoing is true and correct.</p> <p><b>Warning: A willfully and knowingly false statement is a criminal offense under 18 U.S.C. 1001.</b></p>	
<p><b>6.2</b> Authorized Signature of NDA Applicant/Holder or Patent Owner (Attorney, Agent, Representative or other Authorized Official) (Provide Information below) <span style="float: right;">Date Signed</span></p> <p style="text-align: center;"> <span style="float: right; font-size: 1.2em;">11/28/05</span> </p>	
<p><small>NOTE: Only an NDA applicant/holder may submit this declaration directly to the FDA. A patent owner who is not the NDA applicant/holder is authorized to sign the declaration but may not submit it directly to FDA. 21 CFR 314.53(c)(4) and (d)(4).</small></p>	
<p>Check applicable box and provide information below.</p>	
<p><input type="checkbox"/> NDA Applicant/Holder</p> <p><input type="checkbox"/> Patent Owner</p>	<p><input type="checkbox"/> NDA Applicant's/Holder's Attorney, Agent (Representative) or other Authorized Official</p> <p><input checked="" type="checkbox"/> Patent Owner's Attorney, Agent (Representative) or Other Authorized Official</p>
<p>Name Clarence E. Jones, Ph.D.</p>	
<p>Address 8602 Mossford Drive</p>	<p>City/State Huntington Beach, CA</p>
<p>ZIP Code 92646</p>	<p>Telephone Number 714-963-0078</p>
<p>FAX Number (if available) 714-964-9270</p>	<p>E-Mail Address (if available)</p>
<p>The public reporting burden for this collection of information has been estimated to average 9 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to:</p> <p style="text-align: center;">       Food and Drug Administration        CDER (HFD-007)        5600 Fishers Lane        Rockville, MD 20857     </p> <p style="text-align: center;"><i>An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.</i></p>	



## ANCILLARY INFORMATION

### Patent Information

IBSA has submitted several composition of matter patents to various countries/regions throughout the world, including the United States (10/188,467, 10/746,386), Europe, Italy, Japan, Canada, China, and Korea, but only one has been approved to date (Italy). If/when the U.S. patent and T4 Soft Capsules are approved by the Patent and Trademark Office and FDA, respectively, IBSA will submit, in a timely fashion, Form 3542 which appears to meet the requirements of 21 CFR 314.53(c)(2)(ii).

### Patent Certification

There were no unexpired patents listed in the FDA Orange Book Database for Synthroid levothyroxine sodium tablets (reference listed drug for T4 Soft Capsule pharmacokinetic bioequivalence study), nor were any patents identified in a search of the U.S. Patent and Trademark Office website database. Therefore:

In the opinion and to the best knowledge of IBSA, there are no patents that claim the drug (Synthroid) on which investigations are relied upon in this application were conducted or that claim a use of such drug (21 CFR 314.50(i)(ii); *Attachment 1*, Form 3542a, Item 5. No Relevant Patents).

### Debarment Certification

No one involved in the conduct of any studies or activities related to this NDA filing is on the FDA Debarment List. (*Attachment 2*)

### User Fee Cover Sheet

According to Item 7-Exclusions of the Prescription Drug User Fee Cover Sheet (Form FDA 3397), "Section 505(b)(2) applications, as defined by the Federal Food, Drug and Cosmetic Act, are excluded from application fees if: they are not for a new molecular entity which is an active ingredient (including any salt or ester of an active ingredient, and not a new indication for a use". (*Attachment 3*)

### Financial Certification

The Financial Certification Form (3454) is provided in *Attachment 4*, along with IBSA Certification/Disclosure Forms that were signed prior to study enrollment by the principal investigator and subinvestigators \_\_\_\_\_ who participated in the execution of protocols AA05227 and AA05228.

## EXCLUSIVITY SUMMARY

NDA # 22-121

SUPPL # N/A

HFD # 510

Trade Name Tirosint

Generic Name levothyroxine sodium capsules

Applicant Name Institut Biochimique SA (IBSA)

Approval Date, If Known August 1, 2007

### PART I IS AN EXCLUSIVITY DETERMINATION NEEDED?

1. An exclusivity determination will be made for all original applications, and all efficacy supplements. Complete PARTS II and III of this Exclusivity Summary only if you answer "yes" to one or more of the following questions about the submission.

a) Is it a 505(b)(1), 505(b)(2) or efficacy supplement?

YES  NO

If yes, what type? Specify 505(b)(1), 505(b)(2), SE1, SE2, SE3, SE4, SE5, SE6, SE7, SE8

505(b)(2)

c) Did it require the review of clinical data other than to support a safety claim or change in labeling related to safety? (If it required review only of bioavailability or bioequivalence data, answer "no.")

YES  NO

If your answer is "no" because you believe the study is a bioavailability study and, therefore, not eligible for exclusivity, EXPLAIN why it is a bioavailability study, including your reasons for disagreeing with any arguments made by the applicant that the study was not simply a bioavailability study.

2 BE studies submitted

AA05227

AA05228

If it is a supplement requiring the review of clinical data but it is not an effectiveness supplement, describe the change or claim that is supported by the clinical data:

d) Did the applicant request exclusivity?

YES  NO

If the answer to (d) is "yes," how many years of exclusivity did the applicant request?

e) Has pediatric exclusivity been granted for this Active Moiety?

YES  NO

If the answer to the above question in YES, is this approval a result of the studies submitted in response to the Pediatric Written Request?

IF YOU HAVE ANSWERED "NO" TO ALL OF THE ABOVE QUESTIONS, GO DIRECTLY TO THE SIGNATURE BLOCKS AT THE END OF THIS DOCUMENT.

2. Is this drug product or indication a DESI upgrade?

YES  NO

IF THE ANSWER TO QUESTION 2 IS "YES," GO DIRECTLY TO THE SIGNATURE BLOCKS ON PAGE 8 (even if a study was required for the upgrade).

## **PART II FIVE-YEAR EXCLUSIVITY FOR NEW CHEMICAL ENTITIES**

(Answer either #1 or #2 as appropriate)

### **1. Single active ingredient product.**

Has FDA previously approved under section 505 of the Act any drug product containing the same active moiety as the drug under consideration? Answer "yes" if the active moiety (including other esterified forms, salts, complexes, chelates or clathrates) has been previously approved, but this particular form of the active moiety, e.g., this particular ester or salt (including salts with hydrogen or coordination bonding) or other non-covalent derivative (such as a complex, chelate, or clathrate) has not been approved. Answer "no" if the compound requires metabolic conversion (other than deesterification of an esterified form of the drug) to produce an already approved active moiety.

YES  NO

If "yes," identify the approved drug product(s) containing the active moiety, and, if known, the NDA #(s).

NDA# 21-402

levothyroxine sodium

NDA#

NDA#

2. Combination product.

If the product contains more than one active moiety(as defined in Part II, #1), has FDA previously approved an application under section 505 containing any one of the active moieties in the drug product? If, for example, the combination contains one never-before-approved active moiety and one previously approved active moiety, answer "yes." (An active moiety that is marketed under an OTC monograph, but that was never approved under an NDA, is considered not previously approved.)

YES  NO

If "yes," identify the approved drug product(s) containing the active moiety, and, if known, the NDA #(s).

NDA#

NDA#

NDA#

IF THE ANSWER TO QUESTION 1 OR 2 UNDER PART II IS "NO," GO DIRECTLY TO THE SIGNATURE BLOCKS ON PAGE 8. (Caution: The questions in part II of the summary should only be answered "NO" for original approvals of new molecular entities.)

IF "YES," GO TO PART III.

**PART III THREE-YEAR EXCLUSIVITY FOR NDAs AND SUPPLEMENTS**

To qualify for three years of exclusivity, an application or supplement must contain "reports of new clinical investigations (other than bioavailability studies) essential to the approval of the application and conducted or sponsored by the applicant." This section should be completed only if the answer to PART II, Question 1 or 2 was "yes."

1. Does the application contain reports of clinical investigations? (The Agency interprets "clinical investigations" to mean investigations conducted on humans other than bioavailability studies.) If the application contains clinical investigations only by virtue of a right of reference to clinical

investigations in another application, answer "yes," then skip to question 3(a). If the answer to 3(a) is "yes" for any investigation referred to in another application, do not complete remainder of summary for that investigation.

YES  NO

IF "NO," GO DIRECTLY TO THE SIGNATURE BLOCKS ON PAGE 8.

2. A clinical investigation is "essential to the approval" if the Agency could not have approved the application or supplement without relying on that investigation. Thus, the investigation is not essential to the approval if 1) no clinical investigation is necessary to support the supplement or application in light of previously approved applications (i.e., information other than clinical trials, such as bioavailability data, would be sufficient to provide a basis for approval as an ANDA or 505(b)(2) application because of what is already known about a previously approved product), or 2) there are published reports of studies (other than those conducted or sponsored by the applicant) or other publicly available data that independently would have been sufficient to support approval of the application, without reference to the clinical investigation submitted in the application.

(a) In light of previously approved applications, is a clinical investigation (either conducted by the applicant or available from some other source, including the published literature) necessary to support approval of the application or supplement?

YES  NO

If "no," state the basis for your conclusion that a clinical trial is not necessary for approval AND GO DIRECTLY TO SIGNATURE BLOCK ON PAGE 8:

2 BE bridging studies submitted to NDA.

(b) Did the applicant submit a list of published studies relevant to the safety and effectiveness of this drug product and a statement that the publicly available data would not independently support approval of the application?

YES  NO

(1) If the answer to 2(b) is "yes," do you personally know of any reason to disagree with the applicant's conclusion? If not applicable, answer NO.

YES  NO

If yes, explain:

(2) If the answer to 2(b) is "no," are you aware of published studies not conducted or sponsored by the applicant or other publicly available data that could independently demonstrate the safety and effectiveness of this drug product?

YES  NO

If yes, explain:

- (c) If the answers to (b)(1) and (b)(2) were both "no," identify the clinical investigations submitted in the application that are essential to the approval:

2 BE studies AA05227 and AA05228

Studies comparing two products with the same ingredient(s) are considered to be bioavailability studies for the purpose of this section.

3. In addition to being essential, investigations must be "new" to support exclusivity. The agency interprets "new clinical investigation" to mean an investigation that 1) has not been relied on by the agency to demonstrate the effectiveness of a previously approved drug for any indication and 2) does not duplicate the results of another investigation that was relied on by the agency to demonstrate the effectiveness of a previously approved drug product, i.e., does not redemonstrate something the agency considers to have been demonstrated in an already approved application.

a) For each investigation identified as "essential to the approval," has the investigation been relied on by the agency to demonstrate the effectiveness of a previously approved drug product? (If the investigation was relied on only to support the safety of a previously approved drug, answer "no.")

Investigation #1 YES  NO

Investigation #2 YES  NO

If you have answered "yes" for one or more investigations, identify each such investigation and the NDA in which each was relied upon:

b) For each investigation identified as "essential to the approval", does the investigation duplicate the results of another investigation that was relied on by the agency to support the effectiveness of a previously approved drug product?

Investigation #1 YES  NO

Investigation #2 YES  NO

If you have answered "yes" for one or more investigation, identify the NDA in which a similar investigation was relied on:

c) If the answers to 3(a) and 3(b) are no, identify each "new" investigation in the application or supplement that is essential to the approval (i.e., the investigations listed in #2(c), less any that are not "new"):

4. To be eligible for exclusivity, a new investigation that is essential to approval must also have been conducted or sponsored by the applicant. An investigation was "conducted or sponsored by" the applicant if, before or during the conduct of the investigation, 1) the applicant was the sponsor of the IND named in the form FDA 1571 filed with the Agency, or 2) the applicant (or its predecessor in interest) provided substantial support for the study. Ordinarily, substantial support will mean providing 50 percent or more of the cost of the study.

a) For each investigation identified in response to question 3(c): if the investigation was carried out under an IND, was the applicant identified on the FDA 1571 as the sponsor?

Investigation #1  
IND # 70,039      YES       ! NO   
! Explain:

Investigation #2  
IND #              YES       ! NO   
! Explain:

(b) For each investigation not carried out under an IND or for which the applicant was not identified as the sponsor, did the applicant certify that it or the applicant's predecessor in interest provided substantial support for the study?

Investigation #1  
!  
! YES  ! NO   
! Explain: ! Explain:

Investigation #2  
!  
! YES  ! NO   
! Explain: ! Explain:

(c) Notwithstanding an answer of "yes" to (a) or (b), are there other reasons to believe that the applicant should not be credited with having "conducted or sponsored" the study? (Purchased studies may not be used as the basis for exclusivity. However, if all rights to the drug are purchased (not just studies on the drug), the applicant may be considered to have sponsored or conducted the studies sponsored or conducted by its predecessor in interest.)

YES  NO

If yes, explain:

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Name of person completing form: Julie Marchick  
Title: Regulatory Project Manager  
Date: July 30, 2007

Name of Office/Division Director signing form: Mary Parks, M.D.  
Title: Division Director, DMEP

Form OGD-011347; Revised 05/10/2004; formatted 2/15/05

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/s/

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**PEDIATRIC PAGE**

(Complete for all filed original applications and efficacy supplements)

NDA/BLA #: 22-121 Supplement Type (e.g. SE5): N/A Supplement Number: N/A

Stamp Date: December 5, 2005 (administratively unbundled from NDA 21-924) PDUFA Goal Date: August 1, 2007

HFD-510 Trade and generic names/dosage form: Tirosint (levothyroxine sodium) capsules

Applicant: Institut Biochimique SA (IBSA) Therapeutic Class: Thyroid

Does this application provide for new active ingredient(s), new indication(s), new dosage form, new dosing regimen, or new route of administration? \*

- Yes. Please proceed to the next question.
- No. PREA does not apply. Skip to signature block.

\* SE5, SE6, and SE7 submissions may also trigger PREA. If there are questions, please contact the Rosemary Addy or Grace Carmouze.

Indication(s) *previously approved* (please complete this section for supplements only): Replacement or supplemental therapy in congenital or acquired hypothyroidism of any etiology, or in the treatment or prevention of various types of euthyroid goiters, as an adjunct to surgery and radioiodine therapy in the management of thyrotropin-dependent well differentiated thyroid cancer.

Each indication covered by current application under review must have pediatric studies: *Completed, Deferred, and/or Waived.*

Number of indications for this application(s): Same indications. 13 mcg strength

Responses below apply to all indications.

Is this an orphan indication?

- Yes. PREA does not apply. Skip to signature block.
- No. Please proceed to the next question.

Is there a full waiver for this indication (check one)?

- Yes: Please proceed to Section A.
- No: Please check all that apply:  Partial Waiver  Deferred  Completed

NOTE: More than one may apply

Please proceed to Section B, Section C, and/or Section D and complete as necessary.

**Section A: Fully Waived Studies**

Reason(s) for full waiver:

- Products in this class for this indication have been studied/labeled for pediatric population
- Disease/condition does not exist in children
- Too few children with disease to study
- There are safety concerns
- Other: \_\_\_\_\_

If studies are fully waived, then pediatric information is complete for this indication. If there is another indication, please see attachment A. Otherwise, this Pediatric Page is complete and should be entered into DFS.

**Section B: Partially Waived Studies**

Age/weight range being partially waived (fill in applicable criteria below):

Min \_\_\_\_\_ kg \_\_\_\_\_ mo. \_\_\_\_\_ yr. \_\_\_\_\_ Tanner Stage \_\_\_\_\_  
Max \_\_\_\_\_ kg \_\_\_\_\_ mo. \_\_\_\_\_ yr. \_\_\_\_\_ Tanner Stage \_\_\_\_\_

Reason(s) for partial waiver:

- Products in this class for this indication have been studied/labeled for pediatric population
- Disease/condition does not exist in children
- Too few children with disease to study
- There are safety concerns
- Adult studies ready for approval
- Formulation needed
- Other: \_\_\_\_\_

*If studies are deferred, proceed to Section C. If studies are completed, proceed to Section D. Otherwise, this Pediatric Page is complete and should be entered into DFS.*

**Section C: Deferred Studies**

Age/weight range being deferred (fill in applicable criteria below):

Min \_\_\_\_\_ kg \_\_\_\_\_ mo. \_\_\_\_\_ yr. \_\_\_\_\_ Tanner Stage \_\_\_\_\_  
Max \_\_\_\_\_ kg \_\_\_\_\_ mo. \_\_\_\_\_ yr. \_\_\_\_\_ Tanner Stage \_\_\_\_\_

Reason(s) for deferral:

- Products in this class for this indication have been studied/labeled for pediatric population
- Disease/condition does not exist in children
- Too few children with disease to study
- There are safety concerns
- Adult studies ready for approval
- Formulation needed

Other: \_\_\_\_\_

Date studies are due (mm/dd/yy): \_\_\_\_\_

*If studies are completed, proceed to Section D. Otherwise, this Pediatric Page is complete and should be entered into DFS.*

**Section D: Completed Studies**

Age/weight range of completed studies (fill in applicable criteria below):

Min \_\_\_\_\_ kg \_\_\_\_\_ mo. \_\_\_\_\_ yr. \_\_\_\_\_ Tanner Stage \_\_\_\_\_  
Max \_\_\_\_\_ kg \_\_\_\_\_ mo. \_\_\_\_\_ yr. \_\_\_\_\_ Tanner Stage \_\_\_\_\_

Comments:

*If there are additional indications, please proceed to Attachment A. Otherwise, this Pediatric Page is complete and should be entered into DFS.*

NDA 22-121

Page 3

**This page was completed by:**

**Julie Marchick, MPH**

*{See appended electronic signature page}*

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**Regulatory Project Manager**

**FOR QUESTIONS ON COMPLETING THIS FORM CONTACT THE PEDIATRIC AND MATERNAL HEALTH STAFF at 301-796-0700**

**(Revised: 10/10/2006)**

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On Original**

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**This is a representation of an electronic record that was signed electronically and  
this page is the manifestation of the electronic signature.**  
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/s/

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Julie Marchick  
8/2/2007 08:33:50 AM



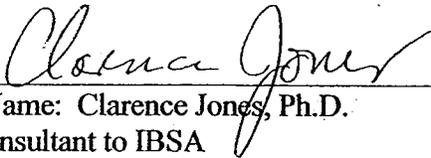
**DEBARMENT CERTIFICATION**

Pursuant to Section 306(k)(1) of the Federal Food, Drug and Cosmetic Act, IBSA hereby certifies that:

IBSA did not and will not use in any capacity the services of any person debarred under subsection 306(a) or 306(b) in connection with its 505(b)(2) application for T4 Soft Capsules.

By:   
Printed Name: Giuseppe Mautone  
Title: Director R&D IBSA

Date: 11-19-2005

By:   
Printed Name: Clarence Jones, Ph.D.  
Title: Consultant to IBSA

Date: 11/28/05

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On Original



**DEBARMENT CERTIFICATION**

, in accordance with the requirements of the Federal Food, Drug and Cosmetic Act, certifies that to the best of its knowledge, its

is not and will not be using any person debarred under 21 USC section 306 subsection (a) or (b) in any capacity in connection with the performance of this study or studies.

also certifies that to the best of its knowledge, is not and will not be using any person or affiliate person/firm for whom convictions subject to debarment have occurred in the last five (5) years in any capacity in connection with the performance of this study or studies.

If at any time after execution of this Agreement, becomes aware that or any person employed thereby or any affiliate person/firm is in the process of being debarred, hereby certifies that they will so notify Sponsor at once.

Gilbert Godin, P.E., M.B.A.  
President & CEO

November 19, 2004

Date



DEPARTMENT OF HEALTH AND HUMAN SERVICES Food and Drug Administration <b>CERTIFICATION: FINANCIAL INTERESTS AND                  ARRANGEMENTS OF CLINICAL INVESTIGATORS</b>	Form Approved: OMB No. 0910-0396 Expiration Date: February 28, 2006.
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*TO BE COMPLETED BY APPLICANT*

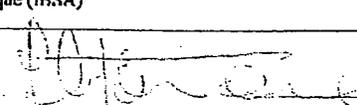
With respect to all covered clinical studies (or specific clinical studies listed below (if appropriate)) submitted in support of this application, I certify to one of the statements below as appropriate. I understand that this certification is made in compliance with 21 CFR part 54 and that for the purposes of this statement, a clinical investigator includes the spouse and each dependent child of the investigator as defined in 21 CFR 54.2(d).

Please mark the applicable checkbox.

(1) As the sponsor of the submitted studies, I certify that I have not entered into any financial arrangement with the listed clinical investigators (enter names of clinical investigators below or attach list of names to this form) whereby the value of compensation to the investigator could be affected by the outcome of the study as defined in 21 CFR 54.2(a). I also certify that each listed clinical investigator required to disclose to the sponsor whether the investigator had a proprietary interest in this product or a significant equity in the sponsor as defined in 21 CFR 54.2(b) did not disclose any such interests. I further certify that no listed investigator was the recipient of significant payments of other sorts as defined in 21 CFR 54.2(f).

(2) As the applicant who is submitting a study or studies sponsored by a firm or party other than the applicant, I certify that based on information obtained from the sponsor or from participating clinical investigators, the listed clinical investigators (attach list of names to this form) did not participate in any financial arrangement with the sponsor of a covered study whereby the value of compensation to the investigator for conducting the study could be affected by the outcome of the study (as defined in 21 CFR 54.2(a)); had no proprietary interest in this product or significant equity interest in the sponsor of the covered study (as defined in 21 CFR 54.2(b)); and was not the recipient of significant payments of other sorts (as defined in 21 CFR 54.2(f)).

(3) As the applicant who is submitting a study or studies sponsored by a firm or party other than the applicant, I certify that I have acted with due diligence to obtain from the listed clinical investigators (attach list of names) or from the sponsor the information required under 54.4 and it was not possible to do so. The reason why this information could not be obtained is attached.

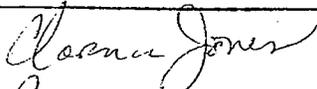
NAME Giuseppe Martone	TITLE Director R&D
FIRM / ORGANIZATION Institut Biochimique (IBSA)	
SIGNATURE 	DATE 11/15/2005

**Paperwork Reduction Act Statement**

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Public reporting burden for this collection of information is estimated to average 1 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the necessary data, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information to the address to the right.

Department of Health and Human Services  
 Food and Drug Administration  
 5600 Fishers Lane, Room 14C-03  
 Rockville, MD 20857

FORM FDA 3454 (2/03)

  
 CONSULTANT TO IBSA

2/28/2006

Control No. PSC Media Act 0004-70-1 445-100 EF

**MEMORANDUM**

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
PUBLIC HEALTH SERVICE  
FOOD AND DRUG ADMINISTRATION  
CENTER FOR DRUG EVALUATION AND RESEARCH

**DATE:** August 9, 2007

**TO:** File: NDA 21-924 and NDA 22-121 – Tirosint (levothyroxine sodium) capsules

**FROM:** Julie Marchick, MPH  
Regulatory Project Manager; HFD-510

**SUBJECT:** **Future NDA Submissions for Tirosint**

NDA 21-924 for Tirosint was approved on October 16, 2006. The 12.5 mcg (now 13 mcg strength) was administratively unbundled from NDA 21-924 as NDA 22-121. NDA 22-121 was approved on August 1, 2007.

The Sponsor was informed in the approval letter for NDA 22-121 that all 15-day alert reports, periodic (including quarterly) adverse drug experience reports, field alerts, annual reports, supplements, and other submissions should be addressed to the original NDA 21-924 for this drug product, not to NDA 22-121. The Sponsor should not make any submissions to NDA 22-121 except for the final printed labeling.

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/s/

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Julie Marchick  
8/9/2007 09:03:42 AM  
CSO

**From:** Marchick, Julie  
**To:** "cejtwsex@verizon.net";  
**CC:**  
**Subject:** NDA 22-121 Tirosint 13 mcg  
**Date:** Friday, June 15, 2007 11:55:06 AM  
**Attachments:**

---

Dr. Jones,

DMETS has reviewed your labeling revisions dated May 10, 2007 that were made in response to Dr. Parks' April 13, 2007 letter. DMETS acknowledges that you have addressed most of their recommendations. However, they have the following comments. Please address the following comments in writing to your NDA file.

#### A. GENERAL COMMENT

In response to our request for information on the manufacturer's point of contact in the United States, the sponsor states that a point of contact has not been identified. The sponsor indicates that once a United States distributor has been identified it will be added to the labeling. However, healthcare providers and patients should have a point of contact in the United States in order to report medication errors and adverse events. Additionally, if healthcare providers need further information on Tirosint there is no way for them to obtain this information from a company representative. The address listed in the labeling is for a Swedish contact and the Internet site is not in English. Thus, DMETS believes that patient safety may be jeopardized if this product is distributed without a contact in the United States listed in the labels and labeling before approval.

#### B. INSERT LABELING

.....



we recommend that the trailing zero be deleted.

Please let me know if you have any questions.

Thanks,  
Julie

**Julie Marchick**  
**Regulatory Project Manager**  
**Division of Metabolism and Endocrinology Products**  
**Center for Drug Evaluation and Research**  
**Food and Drug Administration**  
**301-796-1280 (phone)**  
**301-796-9712 (fax)**  
**[julie.marchick@fda.hhs.gov](mailto:julie.marchick@fda.hhs.gov)**

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**On Original**

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/s/

-----  
Julie Marchick  
6/15/2007 11:58:33 AM  
CSO

## REQUEST FOR CONSULTATION

TO (Division/Office):  
**Mail: DMETS**

FROM: DMEP, Jena Weber

DATE: 5/29/07

IND NO:

NDA NO.22-121

TYPE OF DOCUMENT: BL

DATE OF DOCUMENT: 5/10/07

NAME OF DRUG: Tirosint 13 mcg

PRIORITY CONSIDERATION: S

CLASSIFICATION OF DRUG: Thyroid

DESIRED COMPLETION DATE: 7/02/07

NAME OF FIRM: IBSA

### REASON FOR REQUEST

#### I. GENERAL

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> NEW PROTOCOL                  | <input type="checkbox"/> PRE-NDA MEETING         | <input type="checkbox"/> RESPONSE TO DEFICIENCY LETTER     |
| <input type="checkbox"/> PROGRESS REPORT               | <input type="checkbox"/> END OF PHASE II MEETING | <input type="checkbox"/> FINAL PRINTED LABELING            |
| <input type="checkbox"/> NEW CORRESPONDENCE            | <input type="checkbox"/> RESUBMISSION            | <input type="checkbox"/> LABELING REVISION                 |
| <input type="checkbox"/> DRUG ADVERTISING              | <input type="checkbox"/> SAFETY/EFFICACY         | <input type="checkbox"/> ORIGINAL NEW CORRESPONDENCE       |
| <input type="checkbox"/> ADVERSE REACTION REPORT       | <input type="checkbox"/> PAPER NDA               | <input type="checkbox"/> FORMULATIVE REVIEW                |
| <input type="checkbox"/> MANUFACTURING CHANGE/ADDITION | <input type="checkbox"/> CONTROL SUPPLEMENT      | <input checked="" type="checkbox"/> OTHER (SPECIFY BELOW): |
| <input type="checkbox"/> MEETING PLANNED BY            |  |  |

#### II. BIOMETRICS

STATISTICAL EVALUATION BRANCH

STATISTICAL APPLICATION BRANCH

- TYPE A OR B NDA REVIEW  
 END OF PHASE II MEETING  
 CONTROLLED STUDIES  
 PROTOCOL REVIEW  
 OTHER (SPECIFY BELOW):

- CHEMISTRY REVIEW  
 PHARMACOLOGY  
 BIOPHARMACEUTICS  
 OTHER (SPECIFY BELOW):

#### III. BIOPHARMACEUTICS

- DISSOLUTION  
 BIOAVAILABILITY STUDIES  
 PHASE IV STUDIES

- DEFICIENCY LETTER RESPONSE  
 PROTOCOL-BIOPHARMACEUTICS  
 IN-VIVO WAIVER REQUEST

#### IV. DRUG EXPERIENCE

- PHASE IV SURVEILLANCE/EPIDEMIOLOGY PROTOCOL  
 DRUG USE e.g. POPULATION EXPOSURE, ASSOCIATED DIAGNOSES  
 CASE REPORTS OF SPECIFIC REACTIONS (List below)  
 COMPARATIVE RISK ASSESSMENT ON GENERIC DRUG GROUP

- REVIEW OF MARKETING EXPERIENCE, DRUG USE AND SAFETY  
 SUMMARY OF ADVERSE EXPERIENCE  
 POISON RISK ANALYSIS

#### V. SCIENTIFIC INVESTIGATIONS

CLINICAL

PRECLINICAL

**COMMENTS/SPECIAL INSTRUCTIONS:** DR letter issued with DMETS requests on 4/13/07; IBSA response to these comments/requests.

SIGNATURE OF REQUESTER: Jena Weber, PM  
301-796-1306

METHOD OF DELIVERY (Check one) HAND

SIGNATURE OF RECEIVER

SIGNATURE OF DELIVERER

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/s/

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Jena Weber  
5/29/2007 08:19:49 AM  
Jacket hand delivered



NDA 22-121

**DISCIPLINE REVIEW LETTER**

Institut Biochimique SA (IBSA)  
Attention: Clarence E. Jones, Ph.D.  
U.S. Agent  
8602 Mossford Drive  
Huntington Beach, CA 92646

Dear Dr. Jones:

Please refer to your November 30, 2005, new drug application (NDA) submitted under section 505(b) of the Federal Food, Drug, and Cosmetic Act for Tirosint™ (T4 soft capsules), 13 mcg.

The Division of Medication Errors and Technical Support (DMETS), Office of Drug Safety (ODS) has completed their review of your submission. In the review of the labels and labeling, DMETS has attempted to focus on safety issues relating to possible medication errors. DMETS has identified the following areas of possible improvement, which might minimize potential user error. Please address the following comments in writing to your NDA file.

**A. GENERAL COMMENTS**

1. Please ensure that the established name is at least ½ the size of the proprietary name and that it appears prominently in accordance with 21 CFR 201.10(g)(2).
2. As currently presented, patients may misinterpret the statement of product strength as the total amount of Tirosint contained in an entire blister card. DMETS has received reports of medication errors of this type which involved products in which the strength was expressed in the same manner as proposed for this product. Therefore, we request that you revise the statement of strength to read "13 mcg per capsule" or "13 mcg/capsule" in order to prevent patients from ingesting the wrong dose (e.g., the entire contents of the blister card).
3. The distributor named is located in Switzerland (CH). Please provide information on the manufacturer's point of contact in the United States.
4. As currently presented, the statement of product strength "13 mcg" (white text on the lime green background) is difficult to read. To help improve readability, the text font color utilized should maximize the contrast between the text and the background. However, ensure that the color utilized does not overlap or look-similar to any color used to identify other Tirosint strengths.

## B. BLISTER LABELS

1. See GENERAL COMMENTS A1 through A3.
2. The label submitted indicates that the text will be printed on aluminum foil. The lime green color proposed to identify the 13 mcg product strength may be difficult to discern on the foil background. To help improve readability, the color used should maximize the contrast between the text and the foil background.
3. In the current presentation, it is possible for individual blisters to become separated from the blister card. This scenario is most likely to occur in hospitals where capsules are dispensed as unit dose but it can also occur on an outpatient basis as well. For example, patients may cut individual blisters from the blister card for convenience and storage. Such labeling with other products has resulted in medication errors in which the blister card was cut up into unidentifiable blisters. Therefore, please ensure that each blister cell is labeled with the proprietary name, strength, lot number, expiration date, and distributor so practitioners and patients will always have this information readily available.

## C. CARTON LABELING

1. See GENERAL COMMENTS A1 through A4.
4. \_\_\_\_\_ ... " statement should be revised to read "Usual Dosage: See package insert for dosage information." We refer you to 21 CFR 201.55 for guidance.
5. Revise the presentation of the net quantity to read "8 unit dose blisters x 7 capsules each."
6. Revise \_\_\_\_\_ to read "Lot:" and "Exp:" respectively.

## D. INSERT LABELING

## 2. HOW SUPPLIED

See GENERAL COMMENT A3.

We are providing these comments to you before we complete our review of the entire application to give you preliminary notice of issues that we have identified. In conformance with the prescription drug user fee reauthorization agreements, these comments do not reflect a final decision on the information reviewed and should not be construed to do so. These comments are preliminary and subject to change as we finalize our review of your application. In addition, we may identify other information that must be provided before we can approve this application. If you respond to these issues during this review cycle, depending on the timing of your response, and in conformance with the user fee reauthorization agreements, we may not be able to consider your response before we take an action on your application during this review cycle.

If you have any questions, please call Ms. Jena Weber at 301-796-1306.

Sincerely,

*{See appended electronic signature page}*

Mary H. Parks, M.D.  
Director  
Division of Metabolism and Endocrinology Products  
Office of Drug Evaluation II  
Center for Drug Evaluation and Research

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/s/

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Mary Parks  
4/13/2007 02:29:31 PM

**REQUEST FOR CONSULTATION**

TO (Division/Office):  
Mail: **DDMAC**

FROM: DMEP, Jena Weber

DATE: 3/22/07

IND NO:

NDA NO.22-121

TYPE OF DOCUMENT: Original NDA

DATE OF DOCUMENT: 11/30/05\*  
**3/13/07**

NAME OF DRUG: Tirosint

PRIORITY CONSIDERATION: S

CLASSIFICATION OF DRUG: Thyroid

DESIRED COMPLETION DATE: **4/13/07**

NAME OF FIRM: IBSA

**REASON FOR REQUEST**

**I. GENERAL**

- |  |  |  |
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| <input type="checkbox"/> NEW PROTOCOL                  | <input type="checkbox"/> PRE-NDA MEETING         | <input type="checkbox"/> RESPONSE TO DEFICIENCY LETTER     |
| <input type="checkbox"/> PROGRESS REPORT               | <input type="checkbox"/> END OF PHASE II MEETING | <input type="checkbox"/> FINAL PRINTED LABELING            |
| <input type="checkbox"/> NEW CORRESPONDENCE            | <input type="checkbox"/> RESUBMISSION            | <input type="checkbox"/> LABELING REVISION                 |
| <input type="checkbox"/> DRUG ADVERTISING              | <input type="checkbox"/> SAFETY/EFFICACY         | <input type="checkbox"/> ORIGINAL NEW CORRESPONDENCE       |
| <input type="checkbox"/> ADVERSE REACTION REPORT       | <input type="checkbox"/> PAPER NDA               | <input type="checkbox"/> FORMULATIVE REVIEW                |
| <input type="checkbox"/> MANUFACTURING CHANGE/ADDITION | <input type="checkbox"/> CONTROL SUPPLEMENT      | <input checked="" type="checkbox"/> OTHER (SPECIFY BELOW): |
| <input type="checkbox"/> MEETING PLANNED BY            |  |  |

**II. BIOMETRICS**

STATISTICAL EVALUATION BRANCH

STATISTICAL APPLICATION BRANCH

- TYPE A OR B NDA REVIEW  
 END OF PHASE II MEETING  
 CONTROLLED STUDIES  
 PROTOCOL REVIEW  
 OTHER (SPECIFY BELOW):

- CHEMISTRY REVIEW  
 PHARMACOLOGY  
 BIOPHARMACEUTICS  
 OTHER (SPECIFY BELOW):

**III. BIOPHARMACEUTICS**

- |  |   |
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| <input type="checkbox"/> DISSOLUTION             | <input type="checkbox"/> DEFICIENCY LETTER RESPONSE |
| <input type="checkbox"/> BIOAVAILABILITY STUDIES | <input type="checkbox"/> PROTOCOL-BIOPHARMACEUTICS  |
| <input type="checkbox"/> PHASE IV STUDIES        | <input type="checkbox"/> IN-VIVO WAIVER REQUEST     |

**IV. DRUG EXPERIENCE**

- |  |  |
|--|--|
| <input type="checkbox"/> PHASE IV SURVEILLANCE/EPIDEMIOLOGY PROTOCOL             | <input type="checkbox"/> REVIEW OF MARKETING EXPERIENCE, DRUG USE AND SAFETY |
| <input type="checkbox"/> DRUG USE e.g. POPULATION EXPOSURE, ASSOCIATED DIAGNOSES | <input type="checkbox"/> SUMMARY OF ADVERSE EXPERIENCE                       |
| <input type="checkbox"/> CASE REPORTS OF SPECIFIC REACTIONS (List below)         | <input type="checkbox"/> POISON RISK ANALYSIS                                |
| <input type="checkbox"/> COMPARATIVE RISK ASSESSMENT ON GENERIC DRUG GROUP       |  |

**V. SCIENTIFIC INVESTIGATIONS**

CLINICAL

PRECLINICAL

**COMMENTS/SPECIAL INSTRUCTIONS: \* Original NDA submission 21-924 was administratively split. NDA 22-121 is for the 13 mcg only.**

Please review and comment prn on all proposed LBL. Each section may be located via EDR.

**UFGD: April 23, 2007**

SIGNATURE OF REQUESTER: Jena Weber, PM  
301-796-1306

METHOD OF DELIVERY (Check one)  
X DFS  HAND

SIGNATURE OF RECEIVER

SIGNATURE OF DELIVERER

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/s/

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Kanika Vij  
4/11/2007 08:41:56 AM



NDA 22-121

Institute Biochimique SA (IBSA)  
Attention: Clarence E. Jones, Ph.D.  
U.S. Agent  
8602 Mossford Drive  
Huntington Beach, CA 92646

3/27/07

Dear Dr. Jones:

Please refer to your October 18, 2006, new drug application (NDA) submitted under section 505(b) of the Federal Food, Drug, and Cosmetic Act for Tirosint™ (levothyroxine sodium soft capsules), 13 mcg.

We also refer to your submission dated March 13, 2007, and to our communication (sent electronic mail) dated March 13, 2007.

We are reviewing the Chemistry, Manufacturing and Controls section of your submission and have the following comments and information requests. We request a prompt written response in order to continue our evaluation of your NDA.

**Package Insert**

The labeling provided is not consistent with the labeling for NDA 21-924 (approved on October 13, 2006), for Tirosint 25, 50, 75, 100, 125, and 150 mcg. The package insert submitted appears to be based on earlier labeling rather than the approved version. Examples include:

\_\_\_\_\_

\_\_\_\_\_

1/2  
F

**Carton and Container**

[Redacted]

**Additional Information Request**

1. According to our records, the clinical study site was \_\_\_\_\_ the analytical study site was \_\_\_\_\_ and the pharmacokinetic analysis site was \_\_\_\_\_. Please confirm if this is correct.

We are providing these comments to you before we complete our review of the entire application to give you preliminary notice of issues that we have identified. In conformance with the prescription drug user fee reauthorization agreements, these comments do not reflect a final decision on the information reviewed and should not be construed to do so. These comments are preliminary and subject to change as we finalize our review of your application. In addition, we may identify other information that must be provided before we can approve this application. If you respond to these issues during this review cycle, depending on the timing of your response, and in conformance with the user fee reauthorization agreements, we may not be able to consider your response before we take an action on your application during this review cycle.

If you have any questions, please call Ms. Jena Weber at 301-796-1306.

Sincerely,

*{See appended electronic signature page}*

Mary H. Parks, M.D.  
Director  
Division of Metabolism and Endocrinology Products  
Office of Drug Evaluation II  
Center for Drug Evaluation and Research

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/s/

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Mary Parks  
3/27/2007 01:17:13 PM

# REQUEST FOR CONSULTATION

TO (Division/Office):  
**Mail: DMETS**

FROM: DMEP, Jena Weber

DATE: 3/22/07

IND NO:

NDA NO.22-121

TYPE OF DOCUMENT: Original NDA

DATE OF DOCUMENT: 3/13/07

NAME OF DRUG: Tirosint 13 mcg

PRIORITY CONSIDERATION: S

CLASSIFICATION OF DRUG: Thyroid

DESIRED COMPLETION DATE: **4/13/07\***

NAME OF FIRM: IBSA

## REASON FOR REQUEST

### I. GENERAL

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> NEW PROTOCOL                  | <input type="checkbox"/> PRE-NDA MEETING         | <input type="checkbox"/> RESPONSE TO DEFICIENCY LETTER     |
| <input type="checkbox"/> PROGRESS REPORT               | <input type="checkbox"/> END OF PHASE II MEETING | <input type="checkbox"/> FINAL PRINTED LABELING            |
| <input type="checkbox"/> NEW CORRESPONDENCE            | <input type="checkbox"/> RESUBMISSION            | <input type="checkbox"/> LABELING REVISION                 |
| <input type="checkbox"/> DRUG ADVERTISING              | <input type="checkbox"/> SAFETY/EFFICACY         | <input type="checkbox"/> ORIGINAL NEW CORRESPONDENCE       |
| <input type="checkbox"/> ADVERSE REACTION REPORT       | <input type="checkbox"/> PAPER NDA               | <input type="checkbox"/> FORMULATIVE REVIEW                |
| <input type="checkbox"/> MANUFACTURING CHANGE/ADDITION | <input type="checkbox"/> CONTROL SUPPLEMENT      | <input checked="" type="checkbox"/> OTHER (SPECIFY BELOW): |
| <input type="checkbox"/> MEETING PLANNED BY            |  |  |

### II. BIOMETRICS

STATISTICAL EVALUATION BRANCH

STATISTICAL APPLICATION BRANCH

- TYPE A OR B NDA REVIEW  
 END OF PHASE II MEETING  
 CONTROLLED STUDIES  
 PROTOCOL REVIEW  
 OTHER (SPECIFY BELOW):

- CHEMISTRY REVIEW  
 PHARMACOLOGY  
 BIOPHARMACEUTICS  
 OTHER (SPECIFY BELOW):

### III. BIOPHARMACEUTICS

- |  |   |
|--|---|
| <input type="checkbox"/> DISSOLUTION             | <input type="checkbox"/> DEFICIENCY LETTER RESPONSE |
| <input type="checkbox"/> BIOAVAILABILITY STUDIES | <input type="checkbox"/> PROTOCOL-BIOPHARMACEUTICS  |
| <input type="checkbox"/> PHASE IV STUDIES        | <input type="checkbox"/> IN-VIVO WAIVER REQUEST     |

### IV. DRUG EXPERIENCE

- |  |  |
|--|--|
| <input type="checkbox"/> PHASE IV SURVEILLANCE/EPIDEMIOLOGY PROTOCOL             | <input type="checkbox"/> REVIEW OF MARKETING EXPERIENCE, DRUG USE AND SAFETY |
| <input type="checkbox"/> DRUG USE e.g. POPULATION EXPOSURE, ASSOCIATED DIAGNOSES | <input type="checkbox"/> SUMMARY OF ADVERSE EXPERIENCE                       |
| <input type="checkbox"/> CASE REPORTS OF SPECIFIC REACTIONS (List below)         | <input type="checkbox"/> POISON RISK ANALYSIS                                |
| <input type="checkbox"/> COMPARATIVE RISK ASSESSMENT ON GENERIC DRUG GROUP       |  |

### V. SCIENTIFIC INVESTIGATIONS

CLINICAL

PRECLINICAL

**COMMENTS/SPECIAL INSTRUCTIONS:** \*Note: original NDA submission 21-924 was administratively split with AP letter issued 10/13/06, for all strengths **except** the 12.5 mcg. Company has re-submitted application for **13 mcg strength** only. Please review and comment prn on the proposed LBL presentation, available via EDR.

SIGNATURE OF REQUESTER: Jena Weber, PM  
301-796-1306

METHOD OF DELIVERY (Check one)  
X DFS

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SIGNATURE OF DELIVERER

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/s/

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Jena Weber

3/22/2007 07:50:36 AM



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service  
Food and Drug Administration  
Rockville, MD 20857

NDA 22-121

1/9/07

Institute Biochimique SA (IBSA)  
Attention: Clarence E. Jones, Ph.D.  
U.S. Agent  
8602 Mossford Drive  
Huntington Beach, CA 92646

Dear Dr. Jones:

Please refer to your new drug application (NDA) dated November 30, 2005, received December 5, 2005, pursuant to section 505(b)(2) submitted of the Federal Food, Drug, and Cosmetic Act for Tirosint™ (levothyroxine sodium capsules), 12.5 mcg.

We acknowledge receipt of your submission dated October 18, 2006.

The October 18, 2006, submission constituted a complete response to our October 13, 2006, action letter.

We completed our review of your submission, and find the information presented is inadequate. Therefore, the application is **not approvable** under section 505(d) of the Act and 21 CFR 314.125(b). The deficiency is summarized as follows:

The proposed labeling font size changes are not sufficient to address the concerns outlined in the initial not approvable letter dated October 13, 2006. To address this deficiency, the Division continues to recommend selection of a dose that is not distinguished from higher dosage strengths by only the placement of a decimal point. For example, a 13 mcg dosage strength would be acceptable, and will not require additional clinical studies for approval.

Within 10 days after the date of this letter, you are required to amend the application, notify us of your intent to file an amendment, or follow one of your other options under 21 CFR 314.120. If you do not follow one of these options, we will consider your lack of response a request to withdraw the application under 21 CFR 314.65.

Under 21 CFR 314.102(d), you may request a meeting or telephone conference with this Division, the Division of Metabolism and Endocrinology Products to discuss what steps need to be taken before the application may be approved.

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/s/

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Mary Parks  
1/9/2007 08:43:42 AM

DEPARTMENT OF HEALTH AND HUMAN SERVICES PUBLIC HEALTH SERVICE FOOD AND DRUG ADMINISTRATION		<b>REQUEST FOR CONSULTATION</b>		
TO (Division/Office): <b>Mail: DMETS</b>		FROM: DMEP, Jena Weber		
DATE: 11/3/06	IND NO:	NDA NO.22-121	TYPE OF DOCUMENT: Original NDA	DATE OF DOCUMENT: 10/18/06
NAME OF DRUG: Tirosint 12.5 mcg		PRIORITY CONSIDERATION: S	CLASSIFICATION OF DRUG: Thyroid	DESIRED COMPLETION DATE: 1/3/07
NAME OF FIRM: IBSA				
<b>REASON FOR REQUEST</b>				
<b>I. GENERAL</b>				
<input type="checkbox"/> NEW PROTOCOL <input type="checkbox"/> PROGRESS REPORT <input type="checkbox"/> NEW CORRESPONDENCE <input type="checkbox"/> DRUG ADVERTISING <input type="checkbox"/> ADVERSE REACTION REPORT <input type="checkbox"/> MANUFACTURING CHANGE/ADDITION <input type="checkbox"/> MEETING PLANNED BY <input type="checkbox"/> PRE-NDA MEETING <input type="checkbox"/> END OF PHASE II MEETING <input type="checkbox"/> RESUBMISSION <input type="checkbox"/> SAFETY/EFFICACY <input type="checkbox"/> PAPER NDA <input type="checkbox"/> CONTROL SUPPLEMENT <input type="checkbox"/> RESPONSE TO DEFICIENCY LETTER <input type="checkbox"/> FINAL PRINTED LABELING <input type="checkbox"/> LABELING REVISION <input type="checkbox"/> ORIGINAL NEW CORRESPONDENCE <input type="checkbox"/> FORMULATIVE REVIEW <input checked="" type="checkbox"/> OTHER (SPECIFY BELOW):				
<b>II. BIOMETRICS</b>				
STATISTICAL EVALUATION BRANCH		STATISTICAL APPLICATION BRANCH		
<input type="checkbox"/> TYPE A OR B NDA REVIEW <input type="checkbox"/> END OF PHASE II MEETING <input type="checkbox"/> CONTROLLED STUDIES <input type="checkbox"/> PROTOCOL REVIEW <input type="checkbox"/> OTHER (SPECIFY BELOW):		<input type="checkbox"/> CHEMISTRY REVIEW <input type="checkbox"/> PHARMACOLOGY <input type="checkbox"/> BIOPHARMACEUTICS <input type="checkbox"/> OTHER (SPECIFY BELOW):		
<b>III. BIOPHARMACEUTICS</b>				
<input type="checkbox"/> DISSOLUTION <input type="checkbox"/> BIOAVAILABILITY STUDIES <input type="checkbox"/> PHASE IV STUDIES		<input type="checkbox"/> DEFICIENCY LETTER RESPONSE <input type="checkbox"/> PROTOCOL-BIOPHARMACEUTICS <input type="checkbox"/> IN-VIVO WAIVER REQUEST		
<b>IV. DRUG EXPERIENCE</b>				
<input type="checkbox"/> PHASE IV SURVEILLANCE/EPIDEMIOLOGY PROTOCOL <input type="checkbox"/> DRUG USE e.g. POPULATION EXPOSURE, ASSOCIATED DIAGNOSES <input type="checkbox"/> CASE REPORTS OF SPECIFIC REACTIONS (List below) <input type="checkbox"/> COMPARATIVE RISK ASSESSMENT ON GENERIC DRUG GROUP		<input type="checkbox"/> REVIEW OF MARKETING EXPERIENCE, DRUG USE AND SAFETY <input type="checkbox"/> SUMMARY OF ADVERSE EXPERIENCE <input type="checkbox"/> POISON RISK ANALYSIS		
<b>V. SCIENTIFIC INVESTIGATIONS</b>				
<input type="checkbox"/> CLINICAL		<input type="checkbox"/> PRECLINICAL		
<b>COMMENTS/SPECIAL INSTRUCTIONS:</b> Note: original NDA submission 21-924 was administratively split with AP letter issued 10/13/06, for all strengths <b>except</b> the 12.5 mcg. Please review and comment pm on the proposed LBL presentation. See attached documents.				
SIGNATURE OF REQUESTER: Jena Weber, PM 301-796-1306		METHOD OF DELIVERY (Check one) <input checked="" type="checkbox"/> DFS <input type="checkbox"/> HAND		
SIGNATURE OF RECEIVER		SIGNATURE OF DELIVERER		

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this page is the manifestation of the electronic signature.**  
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/s/

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Jena Weber  
11/3/2006 10:38:40 AM



## DEPARTMENT OF HEALTH &amp; HUMAN SERVICES

Public Health Service

Food and Drug Administration  
Rockville, MD 20857

NDA 22-121

Institute Biochimique SA (IBSA)  
Attention: Clarence E. Jones, Ph.D.  
U.S. Agent  
8602 Mossford Drive  
Huntington Beach, CA 92646

Dear Dr. Jones:

Please refer to your new drug application (NDA) dated November 30, 2005, received December 5, 2006, pursuant to section 505(b)(2) submitted of the Federal Food, Drug, and Cosmetic Act for Tirosint™ (levothyroxine sodium capsules), 12.5 mcg.

We have administratively unbundled the 12.5 mcg strength from NDA 21-924. The new application number for Tirosint™ (levothyroxine sodium capsules), 12.5 mcg is NDA 22-121.

We completed our review of your submission, and find the information presented is inadequate. Therefore, the application is not approvable under section 505(d) of the Act and 21 CFR 314.125(b). The deficiency is summarized as follows:

There is potential for confusion by pharmacists and patients between the two dosage strengths, 12.5 mcg and 125 mcg that is unlikely to be corrected by different color schemes. The clinical consequence of such a medication error is of particular concern if a patient with underlying cardiac disease is given the higher dose in lieu of the 12.5 mcg dose. Such a medication error has the potential for aggravating cardiac ischemia or precipitating a myocardial infarction.

To address this deficiency, if you wish to pursue marketing of a dosage strength less than 25 mcg, the Division recommends selection of a dose that is not distinguished from higher dosage strengths by only the placement of a decimal point. For example, a 13 mcg dosage strength will be acceptable and will not require additional clinical studies for approval.

Within 10 days after the date of this letter, you are required to amend the application, notify us of your intent to file an amendment, or follow one of your other options under 21 CFR 314.120. If you do not follow one of these options, we will consider your lack of response a request to withdraw the application under 21 CFR 314.65.

Any amendment should respond to the deficiency listed. We will not process a partial reply as a major amendment nor will the review clock be reactivated until the deficiency has been addressed.

The drug product may not be legally marketed until you have been notified in writing that this application is approved.

If you have any questions, please call Ms. Jena Weber, Project Manager, at 301-796-1306.

Sincerely,

*{See appended electronic signature page}*

Mary H. Parks, M.D.  
Director  
Division of Metabolism and Endocrinology Products  
Office of Drug Evaluation II  
Center for Drug Evaluation and Research

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On Original**

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/s/

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Mary Parks  
10/13/2006 11:40:11 AM

## ACTION PACKAGE CHECKLIST

Application Information		
BLA # N/A NDA # 22-121	BLA STN# N/A NDA Supplement # N/A	If NDA, Efficacy Supplement Type N/A
Proprietary Name: Tirosint Established Name: levothyroxine sodium Dosage Form: Capsules (13 mcg)		Applicant: Institut Biochimique SA (IBSA)
RPM: Julie Marchick		Division: DMEP (HFD-510)   Phone # (301) 796-1280
<p>NDA Application Type: <input type="checkbox"/> 505(b)(1) <input checked="" type="checkbox"/> 505(b)(2)</p> <p>Efficacy Supplement: <input type="checkbox"/> 505(b)(1) <input type="checkbox"/> 505(b)(2)</p> <p>(A supplement can be either a (b)(1) or a (b)(2) regardless of whether the original NDA was a (b)(1) or a (b)(2). Consult page 1 of the NDA Regulatory Filing Review for this application or Appendix A to this Action Package Checklist.)</p>	<p>505(b)(2) NDAs and 505(b)(2) NDA supplements: Listed drug(s)-referred to in 505(b)(2) application (NDA #(s), Drug name(s)):</p> <p>NDA 21-402 Synthroid (levothyroxine sodium)</p> <p>The listed drug is not available in 13 mcg strength. The listed drug is available in tablets, rather than capsules.</p> <p><input type="checkbox"/> If no listed drug, check here and explain:</p> <p><b>Review and confirm the information previously provided in Appendix B to the Regulatory Filing Review. Use this Checklist to update any information (including patent certification information) that is no longer correct.</b></p> <p><input checked="" type="checkbox"/> Confirmed      <input type="checkbox"/> Corrected</p> <p>Date: July 30, 2007</p>	
❖ User Fee Goal Date	August 1, 2007	
❖ Action Goal Date (if different)	August 1, 2007	
❖ Actions		
• Proposed action	<input checked="" type="checkbox"/> AP <input type="checkbox"/> TA <input type="checkbox"/> AE <input type="checkbox"/> NA <input type="checkbox"/> CR	
• Previous actions (specify type and date for each action taken)	<input type="checkbox"/> None AE – April 20, 2007 NA – January 9, 2007 NA – October 13, 2006	
❖ Advertising (approvals only) Note: If accelerated approval (21 CFR 314.510/601.41), advertising must have been submitted and reviewed (indicate dates of reviews)	<input checked="" type="checkbox"/> Requested in AP letter <input type="checkbox"/> Received and reviewed	

❖ Application Characteristics	
Review priority: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Priority Chemical classification (new NDAs only):  NDAs, BLAs and Supplements: <input type="checkbox"/> Fast Track <input type="checkbox"/> Rolling Review <input type="checkbox"/> CMA Pilot 1 <input type="checkbox"/> CMA Pilot 2  <input type="checkbox"/> Orphan drug designation  NDAs: Subpart H <input type="checkbox"/> Accelerated approval (21 CFR 314.510) <input type="checkbox"/> Restricted distribution (21 CFR 314.520) Subpart I <input type="checkbox"/> Approval based on animal studies  NDAs and NDA Supplements: <input type="checkbox"/> OTC drug  Other:  Other comments:	
❖ Application Integrity Policy (AIP)	
<ul style="list-style-type: none"> <li>Applicant is on the AIP</li> </ul>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> <li>This application is on the AIP                             <ul style="list-style-type: none"> <li>Exception for review (<i>file Center Director's memo in Administrative Documents section</i>)</li> <li>OC clearance for approval (<i>file communication in Administrative Documents section</i>)</li> </ul> </li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Not an AP action
❖ Public communications (approvals only)	
<ul style="list-style-type: none"> <li>Office of Executive Programs (OEP) liaison has been notified of action</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> <li>Press Office notified of action</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> <li>Indicate what types (if any) of information dissemination are anticipated</li> </ul>	<input checked="" type="checkbox"/> None <input type="checkbox"/> FDA Press Release <input type="checkbox"/> FDA Talk Paper <input type="checkbox"/> CDER Q&As <input type="checkbox"/> Other



notice of certification?

(Note: The date that the patent owner received the applicant's notice of certification can be determined by checking the application. The applicant is required to amend its 505(b)(2) application to include documentation of this date (e.g., copy of return receipt or letter from recipient acknowledging its receipt of the notice) (see 21 CFR 314.52(e)).

If "Yes," skip to question (4) below. If "No," continue with question (2).

- (2) Has the patent owner (or NDA holder, if it is an exclusive patent licensee) submitted a written waiver of its right to file a legal action for patent infringement after receiving the applicant's notice of certification, as provided for by 21 CFR 314.107(f)(3)?

Yes  No

If "Yes," there is no stay of approval based on this certification. Analyze the next paragraph IV certification in the application, if any. If there are no other paragraph IV certifications, skip to the next section below (Summary Reviews).

If "No," continue with question (3).

- (3) Has the patent owner, its representative, or the exclusive patent licensee filed a lawsuit for patent infringement against the applicant?

Yes  No

(Note: This can be determined by confirming whether the Division has received a written notice from the (b)(2) applicant (or the patent owner or its representative) stating that a legal action was filed within 45 days of receipt of its notice of certification. The applicant is required to notify the Division in writing whenever an action has been filed within this 45-day period (see 21 CFR 314.107(f)(2)).

If "No," the patent owner (or NDA holder, if it is an exclusive patent licensee) has until the expiration of the 45-day period described in question (1) to waive its right to bring a patent infringement action or to bring such an action. After the 45-day period expires, continue with question (4) below.

- (4) Did the patent owner (or NDA holder, if it is an exclusive patent licensee) submit a written waiver of its right to file a legal action for patent infringement within the 45-day period described in question (1), as provided for by 21 CFR 314.107(f)(3)?

Yes  No

If "Yes," there is no stay of approval based on this certification. Analyze the next paragraph IV certification in the application, if any. If there are no other paragraph IV certifications, skip to the next section below (Summary Reviews).

If "No," continue with question (5).

- (5) Did the patent owner, its representative, or the exclusive patent licensee bring suit against the (b)(2) applicant for patent infringement within 45 days of the patent owner's receipt of the applicant's notice of certification?

Yes  No

(Note: This can be determined by confirming whether the Division has received a written notice from the (b)(2) applicant (or the patent owner or its representative) stating that a legal action was filed within 45 days of receipt of its notice of certification. The applicant is required to notify the Division in writing whenever an action has been filed within this 45-day period (see 21 CFR 314.107(f)(2)). If no written notice appears in the NDA file, confirm with the applicant whether a lawsuit was commenced

<p>within the 45-day period).</p> <p><i>If "No," there is no stay of approval based on this certification. Analyze the next paragraph IV certification in the application, if any. If there are no other paragraph IV certifications, skip to the next section below (Summary Reviews).</i></p> <p><i>If "Yes," a stay of approval may be in effect. To determine if a 30-month stay is in effect, consult with the Director, Division of Regulatory Policy II, Office of Regulatory Policy (HFD-007) and attach a summary of the response.</i></p>	
<b>Summary Reviews</b>	
❖ Summary Reviews (e.g., Office Director, Division Director) (indicate date for each review)	None
❖ BLA approvals only: Licensing Action Recommendation Memo (LARM) (indicate date)	N/A
<b>Labeling</b>	
❖ Package Insert	
<ul style="list-style-type: none"> <li>• Most recent division-proposed labeling (only if generated after latest applicant submission of labeling)</li> </ul>	N/A
<ul style="list-style-type: none"> <li>• Most recent applicant-proposed labeling (only if subsequent division labeling does not show applicant version)</li> </ul>	July 25, 2007
<ul style="list-style-type: none"> <li>• Original applicant-proposed labeling</li> </ul>	July 19, 2007
<ul style="list-style-type: none"> <li>• Other relevant labeling (e.g., most recent 3 in class, class labeling), if applicable</li> </ul>	N/A
❖ Patient Package Insert	
<ul style="list-style-type: none"> <li>• Most-recent division-proposed labeling (only if generated after latest applicant submission of labeling)</li> </ul>	N/A
<ul style="list-style-type: none"> <li>• Most recent applicant-proposed labeling (only if subsequent division labeling does not show applicant version)</li> </ul>	N/A
<ul style="list-style-type: none"> <li>• Original applicant-proposed labeling</li> </ul>	N/A
<ul style="list-style-type: none"> <li>• Other relevant labeling (e.g., most recent 3 in class, class labeling), if applicable</li> </ul>	N/A
❖ Medication Guide	
<ul style="list-style-type: none"> <li>• Most recent division-proposed labeling (only if generated after latest applicant submission of labeling)</li> </ul>	N/A
<ul style="list-style-type: none"> <li>• Most recent applicant-proposed labeling (only if subsequent division labeling does not show applicant version)</li> </ul>	N/A
<ul style="list-style-type: none"> <li>• Original applicant-proposed labeling</li> </ul>	N/A
<ul style="list-style-type: none"> <li>• Other relevant labeling (e.g., most recent 3 in class, class labeling)</li> </ul>	N/A
❖ Labels (full color carton and immediate-container labels)	
<ul style="list-style-type: none"> <li>• Most-recent division-proposed labels (only if generated after latest applicant submission)</li> </ul>	N/A
<ul style="list-style-type: none"> <li>• Most recent applicant-proposed labeling</li> </ul>	July 31, 2007
❖ Labeling reviews and minutes of any labeling meetings (indicate dates of reviews and meetings)	<input checked="" type="checkbox"/> DMETS June 14, 2007 <input type="checkbox"/> DSRCS <input checked="" type="checkbox"/> DDMAC April 11, 2007 <input type="checkbox"/> SEALD <input type="checkbox"/> Other reviews <input type="checkbox"/> Memos of Mtgs

<b>Administrative Documents</b>	
❖ Administrative Reviews (RPM Filing Review/Memo of Filing Meeting; ADRA) ( <i>indicate date of each review</i> )	October 13, 2006 (first cycle)
❖ NDA and NDA supplement approvals only: Exclusivity Summary ( <i>signed by Division Director</i> )	<input checked="" type="checkbox"/> Included
❖ AIP-related documents <ul style="list-style-type: none"> <li>Center Director's Exception for Review memo</li> <li>If AP: OC clearance for approval</li> </ul>	N/A N/A
❖ Pediatric Page (all actions)	<input checked="" type="checkbox"/> Included
❖ Debarment certification (original applications only): verified that qualifying language was not used in certification and that certifications from foreign applicants are cosigned by U.S. agent. ( <i>Include certification.</i> )	<input checked="" type="checkbox"/> Verified, statement is acceptable
❖ Postmarketing Commitment Studies	<input checked="" type="checkbox"/> None
<ul style="list-style-type: none"> <li>Outgoing Agency request for post-marketing commitments (<i>if located elsewhere in package, state where located</i>)</li> <li>Incoming submission documenting commitment</li> </ul>	
❖ Outgoing correspondence (letters including previous action letters, emails, faxes, telecons)	October 13, 2006; January 9, 2007; March 27, 2007; April 13, 2007; April 20, 2007; June 15, 2007
❖ Internal memoranda, telecons, email, etc.	N/A
❖ Minutes of Meetings	
<ul style="list-style-type: none"> <li>Pre-Approval Safety Conference (<i>indicate date; approvals only</i>)</li> <li>Pre-NDA/BLA meeting (<i>indicate date</i>)</li> <li>EOP2 meeting (<i>indicate date</i>)</li> <li>Other (e.g., EOP2a, CMC pilot programs)</li> </ul>	N/A <input checked="" type="checkbox"/> No mtg <input checked="" type="checkbox"/> No mtg N/A
❖ Advisory Committee Meeting	<input checked="" type="checkbox"/> No AC meeting
<ul style="list-style-type: none"> <li>Date of Meeting</li> <li>48-hour alert or minutes, if available</li> </ul>	
❖ <u>Federal Register</u> Notices, DESI documents, NAS/NRC reports (if applicable)	N/A
<b>CMC/Product Quality Information</b>	
❖ CMC/Product review(s) ( <i>indicate date for each review</i> )	April 4, 2007; September 1, 2006; May 4, 2006
❖ Reviews by other disciplines/divisions/Centers requested by CMC/product reviewer ( <i>indicate date for each review</i> )	<input checked="" type="checkbox"/> None
❖ BLAs: Product subject to lot release (APs only)	<input type="checkbox"/> Yes <input type="checkbox"/> No
❖ Environmental Assessment (check one) (original and supplemental applications)	
<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Categorical Exclusion (<i>indicate review date</i>)(<i>all original applications and all efficacy supplements that could increase the patient population</i>)</li> <li><input type="checkbox"/> Review &amp; FONSI (<i>indicate date of review</i>)</li> <li><input type="checkbox"/> Review &amp; Environmental Impact Statement (<i>indicate date of each review</i>)</li> </ul>	Granted. See May 4, 2006, Chemistry Review, Page 54 N/A N/A
❖ NDAs: Microbiology reviews (sterility & apyrogenicity) ( <i>indicate date of each review</i> )	April 12, 2006 <input type="checkbox"/> Not a parenteral product
❖ Facilities Review/Inspection	
<ul style="list-style-type: none"> <li>NDAs: Facilities inspections (include EER printout)</li> </ul>	Date completed: October 5, 2006 <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Withhold recommendation

❖ BLAs: Facility-Related Documents <ul style="list-style-type: none"> <li>• Facility review (<i>indicate date(s)</i>)</li> <li>• Compliance Status Check (approvals only, both original and supplemental applications) (<i>indicate date completed, must be within 60 days prior to AP</i>)</li> </ul>	N/A <input type="checkbox"/> Requested <input type="checkbox"/> Accepted <input type="checkbox"/> Hold
❖ NDAs: Methods Validation	<input checked="" type="checkbox"/> Completed <input type="checkbox"/> Requested <input type="checkbox"/> Not yet requested <input type="checkbox"/> Not needed
<b>Nonclinical Information</b>	
❖ Pharm/tox review(s), including referenced IND reviews ( <i>indicate date for each review</i> )	None needed
❖ Review(s) by other disciplines/divisions/Centers requested by P/T reviewer ( <i>indicate date for each review</i> )	<input checked="" type="checkbox"/> None
❖ Statistical review(s) of carcinogenicity studies ( <i>indicate date for each review</i> )	<input checked="" type="checkbox"/> No carc
❖ ECAC/CAC report/memo of meeting	None
❖ Nonclinical inspection review Summary (DSI)	<input checked="" type="checkbox"/> None requested
<b>Clinical Information</b>	
❖ Clinical review(s) ( <i>indicate date for each review</i> )	September 28, 2006; January 6, 2007;
❖ Financial Disclosure reviews(s) or location/date if addressed in another review	September 28, 2006
❖ Clinical consult reviews from other review disciplines/divisions/Centers ( <i>indicate date of each review</i> )	<input checked="" type="checkbox"/> None
❖ Microbiology (efficacy) reviews(s) ( <i>indicate date of each review</i> )	<input type="checkbox"/> Not needed April 12, 2006
❖ Safety Update review(s) ( <i>indicate location/date if incorporated into another review</i> )	NN
❖ Risk Management Plan review(s) (including those by OSE) ( <i>indicate location/date if incorporated into another review</i> )	NN
❖ Controlled Substance Staff review(s) and recommendation for scheduling ( <i>indicate date of each review</i> )	<input checked="" type="checkbox"/> Not needed
❖ DSI Inspection Review Summary(ies) ( <i>include copies of DSI letters to investigators</i> )	<input checked="" type="checkbox"/> None requested
<ul style="list-style-type: none"> <li>• Clinical Studies</li> <li>• Bioequivalence Studies</li> <li>• Clin Pharm Studies</li> </ul>	
❖ Statistical Review(s) ( <i>indicate date for each review</i> )	<input checked="" type="checkbox"/> None
❖ Clinical Pharmacology review(s) ( <i>indicate date for each review</i> )	<input type="checkbox"/> None July 27, 2007; August 30, 2006

## Appendix A to Action Package Checklist

An NDA or NDA supplemental application is likely to be a 505(b)(2) application if:

- (1) It relies on published literature to meet any of the approval requirements, and the applicant does not have a written right of reference to the underlying data. If published literature is cited in the NDA but is not necessary for approval, the inclusion of such literature will not, in itself, make the application a 505(b)(2) application.
- (2) **Or** it relies for approval on the Agency's previous findings of safety and efficacy for a listed drug product and the applicant does not own or have right to reference the data supporting that approval.
- (3) **Or** it relies on what is "generally known" or "scientifically accepted" about a class of products to support the safety or effectiveness of the particular drug for which the applicant is seeking approval. (Note, however, that this does not mean *any* reference to general information or knowledge (e.g., about disease etiology, support for particular endpoints, methods of analysis) causes the application to be a 505(b)(2) application.)

Types of products for which 505(b)(2) applications are likely to be submitted include: fixed-dose combination drug products (e.g., heart drug and diuretic (hydrochlorothiazide) combinations); OTC monograph deviations (see 21 CFR 330.11); new dosage forms; new indications; and, new salts.

An efficacy supplement can be either a (b)(1) or a (b)(2) regardless of whether the original NDA was a (b)(1) or a (b)(2).

An efficacy supplement is a 505(b)(1) supplement if the supplement contains all of the information needed to support the approval of the change proposed in the supplement. For example, if the supplemental application is for a new indication, the supplement is a 505(b)(1) if:

- (1) The applicant has conducted its own studies to support the new indication (or otherwise owns or has right of reference to the data/studies).
- (2) **And** no additional information beyond what is included in the supplement or was embodied in the finding of safety and effectiveness for the original application or previously approved supplements is needed to support the change. For example, this would likely be the case with respect to safety considerations if the dose(s) was/were the same as (or lower than) the original application.
- (3) **And** all other "criteria" are met (e.g., the applicant owns or has right of reference to the data relied upon for approval of the supplement, the application does not rely for approval on published literature based on data to which the applicant does not have a right of reference).

An efficacy supplement is a 505(b)(2) supplement if:

- (1) Approval of the change proposed in the supplemental application would require data beyond that needed to support our previous finding of safety and efficacy in the approval of the original application (or earlier supplement), and the applicant has not conducted all of its own studies for approval of the change, or obtained a right to reference studies it does not own. For example, if the change were for a new indication **AND** a higher dose, we would likely require clinical efficacy data and preclinical safety data to approve the higher dose. If the applicant provided the effectiveness data, but had to rely on a different listed drug, or a new aspect of a previously cited listed drug, to support the safety of the new dose, the supplement would be a 505(b)(2).
- (2) **Or** the applicant relies for approval of the supplement on published literature that is based on data that the applicant does not own or have a right to reference. If published literature is cited in the supplement but is not necessary for approval, the inclusion of such literature will not, in itself, make the supplement a 505(b)(2) supplement.
- (3) **Or** the applicant is relying upon any data they do not own or to which they do not have right of reference.

If you have questions about whether an application is a 505(b)(1) or 505(b)(2) application, consult with your ODE's Office of Regulatory Policy representative.

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this page is the manifestation of the electronic signature.**  
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/s/

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Julie Marchick  
8/9/2007 08:45:49 AM



DEPARTMENT OF HEALTH AND HUMAN SERVICES FOOD AND DRUG ADMINISTRATION		<b>PRESCRIPTION DRUG          USER FEE COVER          SHEET</b>		Form Approved: OMB No. 0910-0044 Expires: October 31, 2006
<b>See Instructions on Reverse Side Before Completing This Form</b>				
A completed form must be signed and accompany each new drug or biologic product application and each new supplement. See exceptions on the reverse side. If payment is sent by U.S. mail or courier, please include a copy of this completed form with payment. Payment instructions and fee rates can be found on CDER's website: <a href="http://www.fda.gov/cder/pd/ufaf/default.htm">http://www.fda.gov/cder/pd/ufaf/default.htm</a>				
1. APPLICANT'S NAME AND ADDRESS Institut Biochimique SA (IBSA) Via Del Piano Casella Postale 266 CH-6915 Pambio-Noranco Switzerland		4. NDA SUBMISSION TRACKING NUMBER (STN) / NDA NUMBER NDA 21-924		
2. TELEPHONE NUMBER (include Area Code)  ( ) +41 91 985-76-76		5. DOES THIS APPLICATION REQUIRE CLINICAL DATA FOR APPROVAL? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YOUR RESPONSE IS "NO" AND THIS IS FOR A SUPPLEMENT, STOP HERE AND SIGN THIS FORM. IF RESPONSE IS "YES", CHECK THE APPROPRIATE RESPONSE BELOW. <input type="checkbox"/> THE REQUIRED CLINICAL DATA ARE CONTAINED IN THE APPLICATION. <input type="checkbox"/> THE REQUIRED CLINICAL DATA ARE SUBMITTED BY REFERENCE TO: _____ (APPLICATION NO. CONTAINING THE DATA)		
3. PRODUCT NAME T4 Soft Capsules (Tirosin™)		6. USER FEE I.D. NUMBER  _____		
7. IS THIS APPLICATION COVERED BY ANY OF THE FOLLOWING USER FEE EXCLUSIONS? IF SO, CHECK THE APPLICABLE EXCLUSION.				
<input type="checkbox"/> A LARGE VOLUME PARENTERAL DRUG PRODUCT APPROVED UNDER SECTION 605 OF THE FEDERAL FOOD, DRUG, AND COSMETIC ACT BEFORE 9/1/92 (See Explanatory)				
<input checked="" type="checkbox"/> A SUBSTITUTED APPLICATION THAT DOES NOT REQUIRE A FEE (See Item 7, reverse side before checking box)				
<input type="checkbox"/> THE APPLICATION QUALIFIES FOR THE ORPHAN DRUG EXEMPTION UNDER SECTION 360(k)(1)(E) OF THE FEDERAL FOOD, DRUG, AND COSMETIC ACT (See Item 7, reverse side before checking box)				
<input type="checkbox"/> THE APPLICATION IS SUBMITTED BY A STATE OR FEDERAL GOVERNMENT ENTITY FOR A DRUG THAT IS NOT DISTRIBUTED COMMERCIALY (See Explanatory)				
8. HAS A WAIVER OF AN APPLICATION FEE BEEN GRANTED FOR THIS APPLICATION? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (See Item 9, reverse side if answered YES)				
Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to:				
Department of Health and Human Services Food and Drug Administration CDER, HFM-9B 1401 Rockville Pike Rockville, MD 20852-1448		Food and Drug Administration CDER, HFD-84 and 12420 Parklawn Drive, Room 3046 Rockville, MD 20852		An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.
SIGNATURE OF AUTHORIZED COMPANY REPRESENTATIVE 		TITLE Director R&D IBSA		DATE 11/15/2005

FORM FDA 3397 (11/03)

*Claudia Jones*  
 CONSULTANT TO IBSA 2/28/2006