

CENTER FOR DRUG EVALUATION AND RESEARCH

APPROVAL PACKAGE FOR:

APPLICATION NUMBER

20-919

Administrative/Correspondence Reviews



Global Research & Development

July 12, 2001

Russell Katz, M.D., Director
Division of Neuropharmacological Drug Products
Center for Drug Evaluation and Research HFD#120
Woodmont II Building
ATT: DOCUMENT CONTROL ROOM
1451 Rockville Pike
Rockville, MD 20852

CONFIDENTIAL/TRADE SECRET INFORMATION
SUBJECT TO 18 USC §1905 AND TO WHICH ALL
CLAIMS OF PRIVILEGE AND CONFIDENTIALITY ARE
ASSERTED IN BOTH STATUTORY AND COMMON
LAW. FURTHER DISSEMINATION MAY ONLY BE
MADE WITH THE EXPRESS WRITTEN PERMISSION
OF PFIZER INC.

Dear Dr. Katz:

**RE: NDA-20-825 - GEODON® Capsules (ziprasidone HCl)
NDA-20-919 - GEODON IM™ (ziprasidone intramuscular for injection)**

UPDATED PATENT INFORMATION

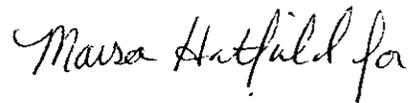
Reference is made to our approved NDA 20-825 for GEODON ® Capsules and pending NDA 20-919 for GEODON IM™ and to the Patent and Exclusivity information included with our original applications. Reference is also made to our submissions dated September 29, 2000 notifying the Agency of the issuance of U.S. Patent 6,110,918 on August 29, 2000 and to our submission dated June 1, 2001 regarding the issuance of Patent 6,232,304 on May 15, 2001. Patent 6,110,918 covers the ziprasidone mesylate trihydrate salt of ziprasidone used in the intramuscular formulation and Patent 6,232,304 covers ziprasidone inclusion complexes as the commercial injectable form of Geodon.

With this amendment we wish to notify the Agency, pursuant to 21 CFR 314.53(d)(1), that Patent 6,245,766, covering the use of ziprasidone for treating psychiatric disorders, issued on June 12, 2001.

Updated NDA sections 13 and 14 for NDA 20-825 and NDA 20-919 are attached. We request that the Agency pursue the listing of Patent 6,245,766 in the Orange Book as appropriate.

Please include this information in our files for NDA 20-825 and NDA 20-919.

Sincerely yours,



Charles A. Ritrovato, Pharm.D.
Director
U.S. Regulatory Strategy and Registration
Worldwide Regulatory Affairs

Desk copy: Mr. S. Hardeman (cover letter only)

DEPARTMENT OF HEALTH AND HUMAN SERVICES
FOOD AND DRUG ADMINISTRATION

Form Approved: OMB No. 0910-0338
Expiration Date: March 31, 2003
See OMB Statement on page 2.

APPLICATION TO MARKET A NEW DRUG, BIOLOGIC,
OR AN ANTIBIOTIC DRUG FOR HUMAN USE

(Title 21, Code of Federal Regulations, Parts 314 & 601)

FOR FDA USE ONLY

APPLICATION NUMBER

APPLICANT INFORMATION

NAME OF APPLICANT Pfizer Global Research & Development	DATE OF SUBMISSION July 12, 2001
TELEPHONE NO. (Include Area Code) (212) 733-5991	FACSIMILE (FAX) Number (Include Area Code) (860) 857-3558
APPLICANT ADDRESS (Number, Street, City, State, Country, ZIP Code or Mail Code, and U.S. License number if previously issued): 235 EAST 42ND ST NEW YORK, NY 10017	AUTHORIZED U.S. AGENT NAME & ADDRESS (Number, Street, City, State, ZIP Code, telephone & FAX number) IF APPLICABLE

PRODUCT DESCRIPTION

GEODON Capsules (ziprasidone HCl)

NEW DRUG OR ANTIBIOTIC APPLICATION NUMBER, OR BIOLOGICS LICENSE APPLICATION NUMBER (If previously issued) NDA-20-825

ESTABLISHED NAME (e.g., Proper name, USP/USAN name) ziprasidone hydrochloride PROPRIETARY NAME (trade name) IF ANY Geodon [®]

CHEMICAL/BIOCHEMICAL/BLOOD PRODUCT NAME (If any) SEE ATTACHED CODE NAME (If any) CP-88,059-1

DOSAGE FORM: oral capsules STRENGTHS: 20,40,60,80 mg ROUTE OF ADMINISTRATION: oral

(PROPOSED) INDICATION(S) FOR USE: Psychosis

APPLICATION INFORMATION

APPLICATION TYPE (check one) NEW DRUG APPLICATION (21 CFR 314.50) ABBREVIATED NEW DRUG APPLICATION (ANDA, 21 CFR 314.94) BIOLOGICS LICENSE APPLICATION (21 CFR Part 601)

IF AN NDA, IDENTIFY THE APPROPRIATE TYPE 505 (b)(1) 505 (b)(2)

IF AN ANDA, OR 505(b)(2), IDENTIFY THE REFERENCE LISTED DRUG PRODUCT THAT IS THE BASIS FOR THE SUBMISSION
Name of Drug Holder of Approved Application

TYPE OF SUBMISSION (check one) ORIGINAL APPLICATION AMENDMENT TO A PENDING APPLICATION RESUBMISSION PRESUBMISSION ANNUAL REPORT ESTABLISHMENT DESCRIPTION SUPPLEMENT EFFICACY SUPPLEMENT LABELING SUPPLEMENT CHEMISTRY MANUFACTURING AND CONTROLS SUPPLEMENT OTHER

IF A SUBMISSION OF PARTIAL APPLICATION, PROVIDE LETTER DATE OF AGREEMENT TO PARTIAL SUBMISSION:

IF A SUPPLEMENT, IDENTIFY THE APPROPRIATE CATEGORY CBE CBE-30 Prior Approval (PA)

REASON FOR SUBMISSION To provide updated patent information

PROPOSED MARKETING STATUS (check one) PRESCRIPTION PRODUCT (Rx) OVER THE COUNTER PRODUCT (OTC)

NUMBER OF VOLUMES SUBMITTED 1 THIS APPLICATION IS PAPER PAPER AND ELECTRONIC ELECTRONIC

ESTABLISHMENT INFORMATION (Full establishment information should be provided in the body of the Application.)
Provide locations of all manufacturing, packaging and control sites for drug substance and drug product (continuation sheets may be used if necessary). Include name, address, contact, telephone number, registration number (CFN), DMF number, and manufacturing steps and/or type of testing (e.g. Final dosage form, Stability testing) conducted at the site. Please indicate whether the site is ready for inspection or, if not, when it will be ready.

See original application NDA-20-825

Cross References (list related License Applications, INDs, NDAs, PMAs, 510(k)s, IDEs, BMFs, and DMFs referenced in the current application)

See original application

This application contains the following items: (Check all that apply)

1. Index
2. Labeling (check one) <input type="checkbox"/> Draft Labeling <input type="checkbox"/> Final Printed Labeling
3. Summary (21 CFR 314.50 (c))
4. Chemistry section
A. Chemistry, manufacturing, and controls information (e.g., 21 CFR 314.50(d)(1); 21 CFR 601.2)
B. Samples (21 CFR 314.50(e)(1); 21 CFR 601.2 (a)) (Submit only upon FDA's request)
C. Methods validation package (e.g., 21 CFR 314.50(e)(2)(i); 21 CFR 601.2)
5. Nonclinical pharmacology and toxicology section (e.g., 21 CFR 314.50(d)(2); 21 CFR 601.2)
6. Human pharmacokinetics and bioavailability section (e.g., 21 CFR 314.50(d)(3); 21 CFR 601.2)
7. Clinical Microbiology (e.g., 21 CFR 314.50(d)(4))
8. Clinical data section (e.g., 21 CFR 314.50(d)(5); 21 CFR 601.2)
9. Safety update report (e.g., 21 CFR 314.50(d)(5)(vi)(b); 21 CFR 601.2)
10. Statistical section (e.g., 21 CFR 314.50(d)(6); 21 CFR 601.2)
11. Case report tabulations (e.g., 21 CFR 314.50(f)(1); 21 CFR 601.2)
12. Case report forms (e.g., 21 CFR 314.50 (f)(2); 21 CFR 601.2)
<input checked="" type="checkbox"/> 13. Patent information on any patent which claims the drug (21 U.S.C. 355(b) or (c))
<input checked="" type="checkbox"/> 14. A patent certification with respect to any patent which claims the drug (21 U.S.C. 355 (b)(2) or (j)(2)(A))
15. Establishment description (21 CFR Part 600, if applicable)
16. Debarment certification (FD&C Act 306 (k)(1))
17. Field copy certification (21 CFR 314.50 (k)(3))
18. User Fee Cover Sheet (Form FDA 3397)
19. Financial Information (21 CFR Part 54)
20. OTHER (Specify)

CERTIFICATION

I agree to update this application with new safety information about the product that may reasonably affect the statement of contraindications, warnings, precautions, or adverse reactions in the draft labeling. I agree to submit safety update reports as provided for by regulation or as requested by FDA. If this application is approved, I agree to comply with all applicable laws and regulations that apply to approved applications, including, but not limited to the following:

1. Good manufacturing practice regulations in 21 CFR Parts 210, 211 or applicable regulations, Parts 606, and/or 820.
2. Biological establishment standards in 21 CFR Part 600.
3. Labeling regulations in 21 CFR Parts 201, 606, 610, 660, and/or 809.
4. In the case of a prescription drug or biological product, prescription drug advertising regulations in 21 CFR Part 202.
5. Regulations on making changes in application in FD&C Act Section 506A, 21 CFR 314.71, 314.72, 314.97, 314.99, and 601.12.
6. Regulations on Reports in 21 CFR 314.80, 314.81, 600.80, and 600.81.
7. Local, state and Federal environmental impact laws.

If this application applies to a drug product that FDA has proposed for scheduling under the Controlled Substances Act, I agree not to market the product until the Drug Enforcement Administration makes a final scheduling decision.

The data and information in this submission have been reviewed and, to the best of my knowledge are certified to be true and accurate.

Warning: A willfully false statement is a criminal offense, U.S. Code, title 18, section 1001.

SIGNATURE OF RESPONSIBLE OFFICIAL OR AGENT <i>Maura D. Hatfield for Andrew Clair</i>	TYPED NAME AND TITLE Andrew Clair, Ph.D. Director and Team Leader, CNS Worldwide Regulatory Strategy	DATE 7/12/01
ADDRESS (Street, City, State, and ZIP Code) 235 EAST 42ND ST, NEW YORK, NY 10017	Telephone Number (212)	733-5991

Public reporting burden for this collection of information is estimated to average 24 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:

Department of Health and Human Services
Food and Drug Administration
CBER, HFM-99
1401 Rockville Pike
Rockville, MD 20852-1448

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.

Form FDA 356H Attachment

CHEMICAL/BIOCHEMICAL/BLOOD PRODUCT NAME

Ziprasidone Hydrochloride Chemical Name

5-[2-[4-(1,2-benzisothiazol-3-yl)-1-piperazinyl]ethyl]-6-chloro-1,3-dihydro-2H-indol-2-one monohydrochloride, monohydrate

**Appears This Way
On Original**

10000000265151.04 approved 14-Jun-2000 12:58

DEPARTMENT OF HEALTH AND HUMAN SERVICES
FOOD AND DRUG ADMINISTRATION

Form Approved: OMB No. 0910-0338
Expiration Date: March 31, 2003
See OMB Statement on page 2.

APPLICATION TO MARKET A NEW DRUG, BIOLOGIC,
OR AN ANTIBIOTIC DRUG FOR HUMAN USE

(Title 21, Code of Federal Regulations, Parts 314 & 601)

FOR FDA USE ONLY

APPLICATION NUMBER

APPLICANT INFORMATION

NAME OF APPLICANT

Pfizer Global Research & Development

DATE OF SUBMISSION

July 12, 2001

TELEPHONE NO. (Include Area Code)

(860) 441-6899

FACSIMILE (FAX) Number (Include Area Code)

(860) 441-0870

APPLICANT ADDRESS (Number, Street, City, State, Country, ZIP Code or Mail Code,
and U.S. License number if previously issued):

50 Pequot Avenue
New London, CT 06320

AUTHORIZED U.S. AGENT NAME & ADDRESS (Number, Street, City, State,
ZIP Code, telephone & FAX number) IF APPLICABLE

PRODUCT DESCRIPTION

Geodon (ziprasidone) intramuscular for injection

NEW DRUG OR ANTIBIOTIC APPLICATION NUMBER, OR BIOLOGICS LICENSE APPLICATION NUMBER (If previously issued)

NDA-20-919

ESTABLISHED NAME (e.g., Proper name, USP/USAN name)

ziprasidone mesylate

PROPRIETARY NAME (trade name) IF ANY

Geodon IM

TM

CHEMICAL/BIOCHEMICAL/BLOOD PRODUCT NAME (If any)
SEE ATTACHED

CODE NAME (If any)

CP-88,059

DOSAGE FORM:

intramuscular injection

STRENGTHS:

20 mg/mL

ROUTE OF ADMINISTRATION:

intramuscular

(PROPOSED) INDICATION(S) FOR USE:

Acute agitation in psychotic patients

APPLICATION INFORMATION

APPLICATION TYPE

(check one)

NEW DRUG APPLICATION (21 CFR 314.50)

ABBREVIATED NEW DRUG APPLICATION (ANDA, 21 CFR 314.94)

BIOLOGICS LICENSE APPLICATION (21 CFR Part 601)

IF AN NDA, IDENTIFY THE APPROPRIATE TYPE

505 (b)(1)

505 (b)(2)

IF AN ANDA, OR 505(b)(2), IDENTIFY THE REFERENCE LISTED DRUG PRODUCT THAT IS THE BASIS FOR THE SUBMISSION

Name of Drug

Holder of Approved Application

TYPE OF SUBMISSION (check one)

ORIGINAL APPLICATION

AMENDMENT TO A PENDING APPLICATION

RESUBMISSION

PRESUBMISSION

ANNUAL REPORT

ESTABLISHMENT DESCRIPTION SUPPLEMENT

EFFICACY SUPPLEMENT

LABELING SUPPLEMENT

CHEMISTRY MANUFACTURING AND CONTROLS SUPPLEMENT

OTHER

IF A SUBMISSION OF PARTIAL APPLICATION, PROVIDE LETTER DATE OF AGREEMENT TO PARTIAL SUBMISSION:

IF A SUPPLEMENT, IDENTIFY THE APPROPRIATE CATEGORY

CBE

CBE-30

Prior Approval (PA)

REASON FOR SUBMISSION

To provide updated patent information

PROPOSED MARKETING STATUS (check one)

PRESCRIPTION PRODUCT (Rx)

OVER THE COUNTER PRODUCT (OTC)

NUMBER OF VOLUMES SUBMITTED

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PAPER

PAPER AND ELECTRONIC

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Provide locations of all manufacturing, packaging and control sites for drug substance and drug product (continuation sheets may be used if necessary). Include name, address, contact, telephone number, registration number (CFN), DMF number, and manufacturing steps and/or type of testing (e.g. Final dosage form, Stability testing) conducted at the site. Please indicate whether the site is ready for inspection or, if not, when it will be ready.

See original application NDA-20-919

Cross References (list related License Applications, INDs, NOAs, PMAs, 510(k)s, IDEs, BMFs, and DMFs referenced in the current application)

See original
application

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18. User Fee Cover Sheet (Form FDA 3397)		
19. Financial Information (21 CFR Part 54)		
20. OTHER <i>(Specify)</i>		
CERTIFICATION		
I agree to update this application with new safety information about the product that may reasonably affect the statement of contraindications, warnings, precautions, or adverse reactions in the draft labeling. I agree to submit safety update reports as provided for by regulation or as requested by FDA. If this application is approved, I agree to comply with all applicable laws and regulations that apply to approved applications, including, but not limited to the following:		
<ol style="list-style-type: none"> 1. Good manufacturing practice regulations in 21 CFR Parts 210, 211 or applicable regulations, Parts 606, and/or 820. 2. Biological establishment standards in 21 CFR Part 600. 3. Labeling regulations in 21 CFR Parts 201, 606, 610, 660, and/or 809. 4. In the case of a prescription drug or biological product, prescription drug advertising regulations in 21 CFR Part 202. 5. Regulations on making changes in application in FD&C Act Section 506A, 21 CFR 314.71, 314.72, 314.97, 314.99, and 601.12. 6. Regulations on Reports in 21 CFR 314.80, 314.81, 600.80, and 600.81. 7. Local, state and Federal environmental impact laws. 		
If this application applies to a drug product that FDA has proposed for scheduling under the Controlled Substances Act, I agree not to market the product until the Drug Enforcement Administration makes a final scheduling decision.		
The data and information in this submission have been reviewed and, to the best of my knowledge are certified to be true and accurate.		
Warning: A willfully false statement is a criminal offense, U.S. Code, title 18, section 1001.		
SIGNATURE OF RESPONSIBLE OFFICIAL OR AGENT <i>Maura Halperin for Charles Ritrovato</i>	TYPED NAME AND TITLE Charles A. Ritrovato, Pharm. D. Director, U.S. Regulatory Strategy and Registration, Worldwide Regulatory Affairs	DATE 7/12/01
ADDRESS <i>(Street, City, State, and ZIP Code)</i> 50 Pequot Avenue, New London, CT 06320		Telephone Number (860) 441-6899
<p>Public reporting burden for this collection of information is estimated to average 24 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>Department of Health and Human Services Food and Drug Administration CBER, HFM-99 1401 Rockville Pike Rockville, MD 20852-1448</p> <p>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.</p>		

Form FDA 356H Attachment

CHEMICAL/BIOCHEMICAL/BLOOD PRODUCT NAME

Ziprasidone Mesylate Chemical Name

5-[2-[4-(1,2-benzisothiazol-3-yl)-1-piperazinyl]ethyl]-6-chloro-1,3-dihydro-2H-indol-2-one
methanesulfonate trihydrate

Appears This Way
On Original

NDA 20-825

Section 13. PATENT AND EXCLUSIVITY INFORMATION FOR GEODON (ZIPRASIDONE)

(Addition Bolded)

1.	Active Ingredient:	5 - {2 - [4 - (1,2- benzisothiazol-3-yl) -1- piperazinyl] ethyl} - 6 - chloro-1,3-dihydro-2H-indol-2-one	
2.	Strengths:	20, 40, 60, 80 and 100mg .	
3.	Trade Name:	GEODON	
4.	Dosage Form / Route of Administration:	Capsules / Oral	
5.	Application Firm Name:	Pfizer Inc.	
6.	NDA Number:	20-825	
7.	Exclusivity Period:	Five years from date of NDA approval	
8.	Applicable Patent Numbers and Expiration Dates:	Patent Number	Expiration Date
		4,831,031	March 2, 2007
		5,312,925	September 1, 2012
		6,150,366	May 27, 2019
		6,245,766	December 18, 2018

NDA 20-825

Section 14. PATENT CERTIFICATION

(Additions / Modifications Bolded)

Pfizer certifies that the drug, **GEODON** (ziprasidone), which is the subject of New Drug Application (NDA#20-825), which is claimed in U.S. Patent 4,831,031, the monohydrate hydrochloride form of which is claimed in U.S. Patent 5,312,925, the commercial oral formulations which are claimed in U.S. Patent 6,150,366, **and the use of ziprasidone for treating psychiatric disorders which is claimed in U.S. Patent 6,245,766**, all listed in Section 13 of this NDA, is the subject of approval under Section 505 of the Federal Food, Drug, and Cosmetic Act.

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On Original

NDA 20-919

Section 13. PATENT AND EXCLUSIVITY INFORMATION FOR GEODON IM (ZIPRASIDONE)

(Additions / Modifications Bolded)

1.	Active Ingredient:	5 - [2 - [4 - (1,2- benzisothiazol-3-yl) -1- piperazinyl] ethyl] - 6 - chloro-1,3-dihydro-2H-indol-2-one, methanesulfonate, trihydrate	
2.	Strengths:	20 mg/mL	
3.	Trade Name:	GEODON IM™	
4.	Dosage Form / Route of Administration:	Intramuscular for Injection	
5.	Application Firm Name:	Pfizer Inc.	
6.	NDA Number:	20-919	
7.	Exclusivity Period:	Three years from date of NDA approval	
8.	Applicable Patent Numbers and Expiration Dates:	Patent Number	Expiration Date
		4,831,031	March 2, 2007
		6,110,918	March 26, 2017
		6,232,304	April 1, 2017
		6,245,766	December 18, 2018

NDA 20-919
Section 14. PATENT CERTIFICATION

(Additions / Modifications Bolded)

Pfizer certifies that the drug, GEODON IM™ FOR INJECTION (ziprasidone mesylate), the subject of New Drug Application #20-919, which is claimed by the listed patents (U.S. Patent Nos. 4,831,031, 6,110,918, 6,232,304 and **6,245,766**) provided in Section 13 of NDA 20-919 is the subject of the approval being sought under Section 505 of the Federal Food, Drug, and Cosmetic Act.

Appears This Way
On Original



Central Research

May 12, 1998

Department of Clinical Research

Paul Leber, M.D., Director
Division of Neuropharmacological Drug Products
Center for Drug Evaluation and Research HFD #120
Office of Drug Evaluation I
ATTN: DOCUMENT CONTROL ROOM #10B-34
5600 Fishers Lane
Rockville, MD 20857

CONFIDENTIAL/TRADE SECRET INFORMATION
SUBJECT TO 18-USE-1905 AND TO WHICH ALL
CLAIMS OF PRIVILEGE AND CONFIDENTIALITY
ARE ASSERTED IN BOTH STATUTORY AND
COMMON LAW. FURTHER DISSEMINATION
MAY ONLY BE MADE WITH THE EXPRESS
WRITTEN PERMISSION OF PFIZER INC.

Dear Dr. Leber:

RE: NDA 20-919 - ZELDOX IM™ (ziprasidone mesylate) for Injection

EXCLUSIVITY INFORMATION

Reference is made to our pending NDA 20-919 for Zeldox IM™ and to the Patent and Exclusivity information included with our original application. This submission updates Section 13 of NDA 20-919. Pursuant to 21 CFR 314.108(b)(4), a three year marketing exclusivity period is claimed from the date of approval of NDA 20-919, in that the application seeks approval of a product which contains an active moiety (ziprasidone) that will have been previously approved in another application, and for which new clinical investigations essential to approval of the application were conducted by the sponsor.

Please include this information in our file for NDA 20-919.

Sincerely yours,

Charles A. Ritrovato, Pharm.D.
Senior Associate Director
Regulatory Affairs Department

CAR/rmh

Serial No. 003

EXCLUSIVITY SUMMARY for NDA 20-919
Trade Name: Geodon for Injection
Generic Name: ziprasidone mesylate
Applicant Name: Pfizer
HFD-120
Approval Date: June 21, 2002

SUPPL # _____

PART I: IS AN EXCLUSIVITY DETERMINATION NEEDED?

1. An exclusivity determination will be made for all original applications, but only for certain 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 an original NDA? **YES**
- b) Is it an effectiveness supplement? **NO**
If yes, what type(SE1, SE2, etc.)? _____
- 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

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.

..... 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**

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

three

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

NO

IF YOU HAVE ANSWERED "NO" TO ALL OF THE ABOVE QUESTIONS, GO DIRECTLY TO THE SIGNATURE BLOCKS ON Page 9.

2. Has a product with the same active ingredient(s), dosage form, strength, route of administration, and dosing schedule previously been approved by FDA for the same use? (Rx to OTC Switches should be answered No - Please indicate as such).

NO

If yes, NDA # _____ Drug Name _____

IF THE ANSWER TO QUESTION 2 IS "YES," GO DIRECTLY TO THE SIGNATURE BLOCKS ON Page 9.

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

NO

IF THE ANSWER TO QUESTION 3 IS "YES," GO DIRECTLY TO THE SIGNATURE BLOCKS ON Page 9 (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

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

NDA # 20-825

Geodon (ziprasidone)

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.)

N/A

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

NDA # N/A

IF THE ANSWER TO QUESTION 1 OR 2 UNDER PART II IS "NO," GO DIRECTLY TO THE SIGNATURE BLOCKS ON Page 9. IF "YES," GO TO PART III.

PART III: THREE-YEAR EXCLUSIVITY FOR NDA'S 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

IF "NO," GO DIRECTLY TO THE SIGNATURE BLOCKS ON Page 9.

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.

For the purposes of this section, studies comparing two products with the same ingredient(s) are considered to be bioavailability studies.

- (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

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 9:**

- (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?

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?

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:

Investigation #1, Study # **125**

Investigation #2, Study # **126**

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 **NO**

Investigation #2 **NO**

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

NDA # _____ Study # _____
NDA # _____ Study # _____
NDA # _____ Study # _____

- (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 **No**

Investigation #2 **No**

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

NDA # _____ Study # _____

NDA # _____ Study # _____

NDA # _____ Study # _____

- (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"):

Investigation #1, Study # 125

Investigation #2, Study # 126

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 # 34,629 **Yes** ! NO /___/ Explain: _____
! _____
! _____
!

Investigation #2 !
IND # 34,629 **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 /___/ Explain _____ ! NO /___/ Explain _____
! _____
! _____
!

Investigation #2 !
YES /___/ Explain _____ ! NO /___/ 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.)

NO

If yes, explain: _____

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

/s/

Russell Katz

7/22/02 04:00:26 PM

NDA/EFFICACY SUPPLEMENT ACTION PACKAGE CHECKLIST

NDA <u>20-919</u> / SE _____ - _____	
Drug <u>Ziprasidon Mesylate IM</u>	Applicant <u>Pfizer</u>
RPM <u>Steven J. Hardeman, R.Ph</u>	Phone <u>301-594-5525</u>
<input checked="" type="checkbox"/> 505(b)(1) <input type="checkbox"/> 505(b)(2) Reference listed drug _____	
<input type="checkbox"/> Fast Track	<input type="checkbox"/> Rolling Review
Review priority: <input checked="" type="checkbox"/> S <input type="checkbox"/> P	
Pivotal IND(s) _____	
Application classifications: Chem Class _____ Other (e.g., orphan, OTC) _____	PDUFA Goal Dates: Primary _____ Secondary _____

Arrange package in the following order:

Indicate N/A (not applicable), X (completed), or add a comment.

GENERAL INFORMATION:

- ◆ User Fee Information: User Fee Paid
 User Fee Waiver (attach waiver notification letter)
 User Fee Exemption

- ◆ Action Letter..... AP AE NA

- ◆ Labeling & Labels
 - FDA revised labeling and reviews.....
 - Original proposed labeling (package insert, patient package insert)
 - Other labeling in class (most recent 3) or class labeling..... N/A
 - Has DDMAC reviewed the labeling? Yes (include review) No
IN ORAL APPLICANT
 - Immediate container and carton labels
 - Nomenclature review

- ◆ Application Integrity Policy (AIP) Applicant is on the AIP. This application is is not on the AIP.
 Exception for review (Center Director's memo)..... _____
 OC Clearance for approval..... _____

- ◆ Status of advertising (if AP action) Reviewed (for Subpart H – attach review) *N/A* Materials requested in AP letter

- ◆ Post-marketing Commitments
 - Agency request for Phase 4 Commitments..... *Requested IN Letter*
 - Copy of Applicant's commitments *N/A*

- ◆ Was Press Office notified of action (for approval action only)?..... Yes No *N/A*
 - Copy of Press Release or Talk Paper.....

- ◆ Patent
 - Information [505(b)(1)]
 - Patent Certification [505(b)(2)].....
 - Copy of notification to patent holder [21 CFR 314.50 (i)(4)].....

- ◆ Exclusivity Summary *will complete @ AP* *N/A*

- ◆ Debarment Statement

- ◆ Financial Disclosure
 - No disclosable information
 - Disclosable information – indicate where review is located

- ◆ Correspondence/Memoranda/Faxes

- ◆ Minutes of Meetings
 - Date of EOP2 Meeting _____
 - Date of pre NDA Meeting _____
 - Date of pre-AP Safety Conference _____

- ◆ Advisory Committee Meeting
 - Date of Meeting *2/15/01*
 - Questions considered by the committee *see internet*
 - Minutes or 48-hour alert or pertinent section of transcript *see internet*

- ◆ Federal Register Notices, DESI documents *N/A*

CLINICAL INFORMATION:

Indicate N/A (not applicable), X (completed), or add a comment.

- ◆ Summary memoranda (e.g., Office Director's memo, Division Director's memo, Group Leader's memo)

- ◆ Clinical review(s) and memoranda

- ◆ Safety Update review(s) ✓
- ◆ Pediatric Information
 - Waiver/partial waiver (Indicate location of rationale for waiver) Deferred
 - Pediatric Page.....
 - Pediatric Exclusivity requested? Denied Granted Not Applicable
- ◆ Statistical review(s) and memoranda ✓
- ◆ Biopharmaceutical review(s) and memoranda..... ✓
- ◆ Abuse Liability review(s) N/A
 - Recommendation for scheduling
- ◆ Microbiology (efficacy) review(s) and memoranda ✓
- ◆ DSI Audits ✓
 - Clinical studies bioequivalence studies

- CMC INFORMATION:** **Indicate N/A (not applicable), X (completed), or add a comment.**
- ◆ CMC review(s) and memoranda ✓
 - ◆ Statistics review(s) and memoranda regarding dissolution and/or stability ✓
 - ◆ DMF review(s) ✓
 - ◆ Environmental Assessment review/FONSI/Categorical exemption ✓
 - ◆ Micro (validation of sterilization) review(s) and memoranda ✓
 - ◆ Facilities Inspection (include EES report)
 - Date completed _____ Acceptable Not Acceptable
 - ◆ Methods Validation Completed Not Completed

- PRECLINICAL PHARM/TOX INFORMATION:** **Indicate N/A (not applicable), X (completed), or add a comment.**
- ◆ Pharm/Tox review(s) and memoranda ✓
 - ◆ Memo from DSI regarding GLP inspection (if any) N/A

◆ Statistical review(s) of carcinogenicity studies

✓

◆ CAC/ECAC report

✓

3/27/02

NDA/EFFICACY SUPPLEMENT ACTION PACKAGE CHECKLIST

NDA 20-929	Efficacy Supplement Type SE-	Supplement Number
Drug: Geodon (ziprasidone mesylate) for Injection		Applicant: Pfizer
RPM: Steven D. Hardeman, R.Ph.		HFD- 120 Phone # 301-594-5525
Application Type: (*) 505(b)(1) () 505(b)(2)		Reference Listed Drug (NDA #, Drug name): NA
◆ Application Classifications:		
• Review priority		<input checked="" type="checkbox"/> Standard () Priority
• Chem class (NDAs only)		3
• Other (e.g., orphan, OTC)		
◆ User Fee Goal Dates 6/21/02		
◆ Special programs (indicate all that apply)		
		<input checked="" type="checkbox"/> None Subpart H () 21 CFR 314.510 (accelerated approval) () 21 CFR 314.520 (restricted distribution) () Fast Track () Rolling Review
◆ User Fee Information		
• User Fee		<input checked="" type="checkbox"/> Paid
• User Fee waiver		() Small business () Public health () Barrier-to-Innovation () Other
• User Fee exception		() Orphan designation () No-fee 505(b)(2) () Other
◆ Application Integrity Policy (AIP)		
• Applicant is on the AIP		() Yes (X) No
• This application is on the AIP		() Yes (X) No
• Exception for review (Center Director's memo)		
• OC clearance for approval		
◆ Debarment certification: verified that qualifying language (e.g., willingly, knowingly) was not used in certification and certifications from foreign applicants are co-signed by U.S. agent. <input checked="" type="checkbox"/> Verified		
◆ Patent		
• Information: Verify that patent information was submitted		<input checked="" type="checkbox"/> Verified
• Patent certification [505(b)(2) applications]: Verify type of certifications submitted		21 CFR 314.50(i)(1)(f)(A) () I () II () III () IV 21 CFR 314.50(i)(1) () (ii) () (iii)
• For paragraph IV certification, verify that the applicant notified the patent holder(s) of their certification that the patent(s) is invalid, unenforceable, or will not be infringed (certification of notification and documentation of receipt of notice).		() Verified

Exclusivity (approvals only)	
• Exclusivity summary	X
• Is there an existing orphan drug exclusivity protection for the active moiety for the proposed indication(s)? Refer to 21 CFR 316.3(b)(13) for the definition of sameness for an orphan drug (i.e., active moiety). This definition is NOT the same as that used for NDA chemical classification!	() Yes, Application # _____ (X) No
❖ Administrative Reviews (Project Manager, ADRA) (indicate date of each review)	N/A
❖ Actions	
• Proposed action	(X) AP () TA () AE () NA
• Previous actions (specify type and date for each action taken)	Not approvable - 12/17/98 Approvable - 3/6/01
• Status of advertising (approvals only)	(X) Materials requested in AP letter () Reviewed for Subpart H
❖ Public communications	
• Press Office notified of action (approval only)	() Yes (X) Not applicable
• Indicate what types (if any) of information dissemination are anticipated	(X) None () Press Release () Talk Paper () Dear Health Care Professional Letter
❖ Labeling (package insert, patient package insert (if applicable), MedGuide (if applicable))	
• Division's proposed labeling (only if generated after latest applicant submission of labeling)	X
• Most recent applicant-proposed labeling	X
• Original applicant-proposed labeling	X
• Labeling reviews (including DDMAC, Office of Drug Safety trade name review, nomenclature reviews) and minutes of labeling meetings (indicate dates of reviews and meetings)	X
• Other relevant labeling (e.g., most recent 3 in class, class labeling)	N/A
❖ Labels (immediate container & carton labels)	
• Division proposed (only if generated after latest applicant submission)	
• Applicant proposed	X
• Reviews	X
❖ Post-marketing commitments	
• Agency request for post-marketing commitments	X
• Documentation of discussions and/or agreements relating to post-marketing commitments	N/A
❖ Outgoing correspondence (i.e., letters, E-mails, faxes)	X
❖ Memoranda and Telecons	X
❖ Minutes of Meetings	
• EOP2 meeting (indicate date)	N/A
• Pre-NDA meeting (indicate date)	N/A
• Pre-Approval Safety Conference (indicate date; approvals only)	N/A
• Other	X

Advisory Committee Meeting	
• Date of Meeting	3/6/01
• 48-hour alert	X
❖ Federal Register Notices, DESI documents, NAS, NRC (if any are applicable)	n/a
❖ Summary Reviews (e.g., Office Director, Division Director, Medical Team Leader) (indicate date for each review)	X
❖ Clinical review(s) (indicate date for each review)	X
❖ Microbiology (efficacy) review(s) (indicate date for each review)	
❖ Safety Update review(s) (indicate date or location if incorporated in another review)	X
❖ Pediatric Page (separate page for each indication addressing status of all age groups)	X
❖ Statistical review(s) (indicate date for each review)	X
❖ Biopharmaceutical review(s) (indicate date for each review)	X
❖ Controlled Substance Staff review(s) and recommendation for scheduling (indicate date for each review)	n/a
❖ Clinical Inspection Review Summary (DSI)	
• Clinical studies	X
• Bioequivalence studies	n/a
CMC review(s) (indicate date for each review)	
❖ Environmental Assessment	
• Categorical Exclusion (indicate review date)	X
• Review & FONSI (indicate date of review)	
• Review & Environmental Impact Statement (indicate date of each review)	
❖ Micro (validation of sterilization & product sterility) review(s) (indicate date for each review)	na
❖ Facilities inspection (provide EER report)	Date completed: (X) Acceptable () Withhold recommendation
❖ Methods validation	() Completed (X) Requested () Not yet requested
❖ Pharm/tox review(s), including referenced IND reviews (indicate date for each review)	X
❖ Nonclinical inspection review summary	X
❖ Statistical review(s) of carcinogenicity studies (indicate date for each review)	X
❖ CAC/ECAC report	X



Global Research & Development

February 9, 2001

Russell Katz, M.D., Director
Division of Neuropharmacological Drug Products
Center for Drug Evaluation and Research HFD #120
Woodmont II Building
ATTN: DOCUMENT CONTROL ROOM
1451 Rockville Pike
Rockville, MD 20852

CONFIDENTIAL/TRADE SECRET INFORMATION
SUBJECT TO 18-USE-1905 AND TO WHICH ALL
CLAIMS OF PRIVILEGE AND CONFIDENTIALITY
ARE ASSERTED IN BOTH STATUTORY AND
COMMON LAW. FURTHER DISSEMINATION MAY
ONLY BE MADE WITH THE EXPRESS WRITTEN
PERMISSION OF PFIZER INC

Dear Dr. Katz:

RE: NDA 20-825 - ZELDOX[®] (ziprasidone) Capsules
NDA 20-919 - ZELDOX IM[®] (ziprasidone mesylate)

Acceptability of "Zeldox[®]" Tradename

Reference is made to our January 11, 2001 submission concerning the acceptability of the ZELDOX[®] and ZELDOX IM[®] tradenames, and to the February 5, 2001 Approval Letter for ziprasidone capsules which indicates that our proposed alternative proprietary name of "Geodon" is acceptable to the Agency. As was communicated to Mr. Steven Hardeman during our telephone conversation of February 7, 2001, please be advised that we intend to use "Geodon" as the tradename for ziprasidone rather than "Zeldox."

As advised by Mr. Hardeman, we will provide Final Printed Labeling as well as container and carton labels which display "Geodon" as the proprietary name for ziprasidone. Please note that other than replacing "Zeldox" with "Geodon," the container and carton labels are identical to previously submitted packaging materials.

Please include this information in the above-referenced NDA files for ziprasidone.

Sincerely yours,

Charles A. Ritrovato, Pharm.D.
Director
Regulatory Affairs Department

CAR/sw
Desk Copy:

Mr. S. Hardeman
Dr. T. Laughren
Dr. R. Temple
Dr. P. Honig (OPDRA)
Mr. J. Philips (OPDRA)
Ms. C. Holquist (OPDRA)

NDA 20-825 Submission No: 125
NDA 20-919 Submission No: 066

11/28/00

CONSULTATION RESPONSE
Office of Post-Marketing Drug Risk Assessment
(OPDRA; HFD-400)

DATE RECEIVED:

November 22, 2000

DUE DATE:

November 28, 2000

OPDRA CONSULT #:

00-0169-2

TO: Russell Katz, M.D.
Director, Division of Neuropharmacological Drug Products
HFD-120

THROUGH: Steven D. Hardeman, Project Manager
HFD-120

PRODUCT NAME:

Zeldox
(Ziprasidone Hydrochloride Capsules)
20 mg, 40 mg, 60 mg and 80 mg

and

Zeldox IM
(Ziprasidone Mesylate for Injection)
10 mg/mL

MANUFACTURER: Pfizer Pharmaceuticals, Inc.

NDA #: 20-825

SAFETY EVALUATOR: Carol Holquist, R.Ph.

SUMMARY: In response to a consult from the Division of Neuropharmacological Drug Products (HFD-120), OPDRA conducted a review of the proposed proprietary names "Zeldox" and "Zeldox IM" to determine the potential for confusion with approved proprietary and generic names as well as pending names and did not recommend the use of the name. OPDRA's review was forwarded to the sponsor for review and comment. The sponsor responded on October 20, 2000, with a proposal to utilize the proprietary name Zeldox and commit to a campaign to prevent medication and dispensing errors associated with Zeldox and Zeldox IM.

OPDRA RECOMMENDATION: After review of the information submitted by the sponsor, OPDRA does not recommend the use of the name "Zeldox".

JS
11/28/00
Jerry Phillips, R.Ph.
Associate Director for Medication Error Prevention
Office of Post-Marketing Drug Risk Assessment
Phone: (301) 827-3242
Fax: (301) 480-8173

JS
11/28/00
Martin Himmel, M.D.
Deputy Director
Office of Post-Marketing Drug Risk Assessment
Center for Drug Evaluation and Research
Food and Drug Administration

**Office of Post-Marketing Drug Risk Assessment
HFD-400; Rm. 15B03
Center for Drug Evaluation and Research**

PROPRIETARY NAME REVIEW

DATE OF REVIEW: November 24, 2000

NDA NUMBER: 20-825

NAME OF DRUG: **Zeldox**
(Ziprasidone Hydrochloride Capsules)
20 mg, 40 mg, 60 mg and 80 mg

and

Zeldox IM
(Ziprasidone Mesylate for Injection)
20 mg/mL

NDA HOLDER: Pfizer Pharmaceuticals, Inc.

I INTRODUCTION

This consult was written in response to a request from the sponsor for the Agency to reconsider the acceptability of the proprietary names Zeldox and Zeldox IM.

The Labeling and Nomenclature Committee (LNC) previously reviewed the proposed proprietary name, Zeldox, on September 22, 1996. The committee concluded the name was acceptable because there were no sound-alike/look-alike products marketed at that time.

OPDRA completed a Proprietary Name Review for this drug product on August 4, 2000 and did not recommend use of the name Zeldox.

In response to OPDRA's concerns regarding the unacceptability of the proprietary name, the sponsor proposed to take the following steps in an effort to prevent medication and dispensing errors associated with dispensing Zeldox:

⇒ Disseminate appropriate educational materials to inform healthcare professionals about the importance of preventing medication errors. These materials will specifically address the potential "sound-alike/look-alike" concerns expressed by OPDRA. We commit to working with the Division on the content of materials that would be disseminated to health care professionals concurrent with the launch of Zeldox to educate them on the issue of potential medication errors and appropriate steps to minimize their occurrence.

⇒ Incorporate appropriate information in the Zeldox Patient Package Insert to alert patients and their family members to the possibility of medication errors and steps that should be taken to avoid them.

⇒ Health care practitioners will be provided with prescription pads pre-printed with the Zeldox name, generic name and indication; this will serve as a reminder to the prescriber at the point of product prescription.

⇒ Stickers imprinted with the Zeldox name and indication will be provided to pharmacists with instructions to apply these to their telephone, this will serve as a reminder to pharmacists during the process of transcribing verbal prescription orders.

⇒ Institute a program to routinely remind healthcare professionals of potential medication errors and to monitor for errors involving Zeldox.

PRODUCT INFORMATION

Zeldox (ziprasidone) will be available as a 20 mg, 40 mg, 60 mg, and 80 mg capsule for oral administration and as a powder for injection, which will deliver 20 mg/mL when, reconstituted. The powder for injection is for intramuscular administration only. Ziprasidone is an antipsychotic, which is chemically unrelated to phenothiazine or butyrophenone antipsychotic agents. Its proposed antipsychotic activity is mediated through a combination of serotonin type 2A (5HT_{2A}) and dopamine type 2 (D₂) receptor antagonism. Zeldox Capsules are indicated for the management of the manifestations of psychotic disorders. Zeldox IM is indicated for the acute control and short-term management of the agitated psychotic patient. If indicated, the patient may continue with oral ziprasidone. Initial treatment with oral ziprasidone begins with a daily dose of 40 mg BID with food, up to 80 mg BID. An increase to a dose greater than 80 mg BID is recommended only after clinical assessment. The safety of doses above 100 mg BID has not been evaluated. An initial dose of 10 to 20 mg ziprasidone injection is recommended. Subsequent doses of 10 mg may be administered as often as every 2 hours, or 20 mg every hours as needed. The maximum recommended dosage is 80 mg/day. Administration of ziprasidone intramuscularly for more than 3 consecutive days has not been studied.

II. RISK ASSESSMENT

The original consult addressed concerns of confusion between the currently marketed drug products Zyvox, Vioxx and Zoladex. The sponsor states they share the Agency's concern about the impact of medication errors but for the following reasons believe that the use of the tradenames Zeldox and Zeldox IM will not negatively impact upon patient health and safety.

A. SPONSOR COMMENT TO OPDRA STUDIES

The fact that the overwhelming majority of written prescriptions in studies #1 and #2 were correctly interpreted by participants is reassuring. In addition to representing larger samples, the written prescription results from these studies are most relevant in prediction potential for medication errors involving Zeldox. Written prescriptions account for the vast majority of physician drug orders, while telephone orders represent less than 1% of prescription orders. The OPDRA report notes that most of the 7 incorrect responses in studies #1 and #2 reflect misspellings of Zeldox. We would point out the potential lack of familiarity with the Zeldox tradenames at this point in time and

question the implication that misspellings will automatically lead to medication errors. It is certainly possible, therefore, that the few errors reported in studies #1 and #2, as well as the errors reported in #3 reflect a lack of familiarity with Zeldox as a tradename. We suggest that this would not be the case at the time of product launch or thereafter. Also reassuring is the fact that in none of the three studies were any currently marketed drug products confused with Zeldox. Instead, the errors in all three of the studies were misspellings, which we submit may well reflect lack of familiarity with an as yet unmarketed product.

OPDRA RESPONSE

We recognize that low scores of correct interpretations would be common for all unapproved drug product names because health professionals are not familiar with the name. However, **negative findings** in studies such as those conducted by OPDRA are **not predictive** as to what may occur once the drug is widely prescribed, as these studies have limitations primarily due to small sample size. Only a positive finding in a study with a small sample size may indicate a high risk and potential for medication errors when extrapolated to the general U.S. population. Moreover, we do not believe that the written prescription results from these studies are most relevant in the prediction potential for medication errors involving Zeldox. OPDRA believes there will be numerous verbal orders for this drug product because health care providers will *not wait* to have a written order to control an *agitated psychotic patient*.

B. SPONSOR COMMENT TO OPDRA'S IDENTIFICATION OF ZYVOX, VIOXX, and ZOLADEX

While the analyses conducted by OPDRA identified the potential for look-alike and sound-alike concerns with Zyvox, Vioxx and Zoladex, it is important to note that none of these three products was mistaken for Zeldox in any of the three OPDRA studies. In addition to the results of the three OPDRA studies, OPDRA's report references a number of noteworthy differences between Zeldox and Zyvox, Vioxx, and Zoladex that will clearly differentiate these products in use. There are a number of substantial, differentiating characteristics among these products which should help to distinguish these products to healthcare prescribers and pharmacists, thus minimizing the potential for medication errors. In addition to the ~~considerable~~ differences in dosage forms, routes of administration, doses and indications, we would also point out the distinctly different generic names, which are frequently used when placing prescription orders in a hospital or clinic setting.

OPDRA cites a specific concern regarding the potential for a fatal outcome if Zeldox is inadvertently dispensed for Zyvox, as this agent is used to treat vancomycin resistant *Enterococcus faecium* infections. If the infection for which Zyvox was prescribed was serious and life-threatening, it would almost certainly be administered intravenously, thus eliminating the potential for a serious medication error, as Zeldox is not available in an intravenous formulation. Zeldox IM requires reconstitution whereas Zyvox IV is available in prefilled bags, a physical distinction, which further minimizes the potential for confusion. Because of the severity of the infections treated by Zyvox, as well as the caution that prescribers carefully consider alternatives before initiating outpatient treatment, it is anticipated that Zyvox will primarily be initiated intravenously in a hospital or institutional care setting, minimizing concerns regarding confusion between the Zyvox tablets and Zeldox

capsules. Further, Zyvox tablets, where used, are used for a short duration, whereas Zeldox capsules will be used for long-term, chronic therapy.

With respect to OPDRA's concern about Zeldox and Vioxx, we believe that these two products are substantially distinct with respect to sound and look, sharing only the "ox" at the end of the names. Indeed, it appears to us that Zyvox and Vioxx are much closer in terms of sound and look, and yet FDA has allowed these products to co-exist in the marketplace. To date, there do not appear to have been any reports to MedWatch of medication errors involving Zyvox and Vioxx. Nonetheless, notable differences exist between Zeldox and Vioxx with respect to available dosage forms, as well as dose strengths and duration of therapy.

With respect to Zoladex, it is difficult to imagine a scenario where this medication could be inadvertently interchanged with Zeldox or vice-versa when one considers the route of administration, dosage form and clinical setting in which these medications would be used.

OPDRA RESPONSE

Although none of the studies conducted by OPDRA confirmed confusion between Zeldox and Zyvox, Vioxx and Zoladex, this is not conclusive evidence that confusion would never occur between these drug products once Zeldox is marketed. **Negative findings** in these studies are **not predictive** as to what may occur once the drug is widely prescribed, as these studies have limitations primarily due to the small sample size. It is also important to note that the two drug products identified by OPDRA to have the greatest potential for confusion, Zyvox and Vioxx, were only approved this year. When OPDRA's studies were conducted these two drug products were on the market for a very short period of time (2 months and 1 year). Therefore, study participants may not have been as familiar with these products and as a result would not have provided them as an interpretation. One participant did identify Zoloft as a sound-alike product as well.

The sponsor states that the number of noteworthy differences between Zeldox and Zyvox, Vioxx, and Zoladex will clearly differentiate these products in use. The sponsor believes that these differentiating characteristics such as differences in dosage forms, routes of administration, doses and indications, different generic names will distinguish these products to healthcare prescribers and pharmacists, thus minimizing the potential for medication errors.

Generally one would assume that based on these differences the potential for medication errors would be low. However, post-marketing experience with the drug product "Celebrex" has demonstrated that *having noteworthy differences* between products *does not eliminate* the potential for error, as the Agency has received 116 reported cases of medication errors involving Celebrex, Celexa and Cerebyx. Celebrex is an NSAID, cox-2 inhibitor indicated for the relief of the signs and symptoms of osteoarthritis and rheumatoid arthritis. Celexa is a serotonin reuptake inhibitor indicated for the treatment of depression. Cerebyx is a prodrug and its active metabolite is phenytoin. Table III describes the FDA approved dosage forms, strengths and usual dosages of each product. Celebrex and Cerebyx share

none of the common factors mentioned above and therefore you would perceive that these two drug products would never be confused. Also, the only commonality that Celebrex and Celexa share is a dosing interval of once daily. The only *common factor* that these names share is the *sound-alike and look-alike properties of their names*.

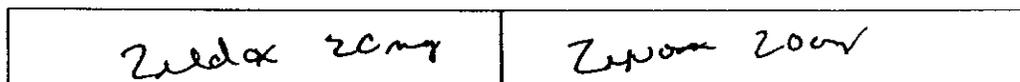
TABLE III

<u>Name of Drug</u>	<u>Available Strength and Dosage Form</u>	<u>Usual Dosage</u>
Celebrex	100 mg and 200 mg Capsules	200 mg once daily or 100 mg to 200 mg twice daily
Cerebyx	50 mg PE/mL Injection 10 mL and 2 mL vial	Varies depending on indication. Average of 10-20 mg PE/kg
Celexa	20 mg and 40 mg Tablets	20 mg to 40 mg once daily. Up to 60 mg daily.

Therefore, based on previous post-marketing experience, OPDRA does not believe that differences such as differentiating dosage forms, different routes of administration, different doses and different indications rule out any potential for confusion when the names clearly sound or look alike to a currently marketed drug product.

Although, there are a number of substantial, differentiating characteristics among these products there are some commonalities as well. These common factors have the potential to increase the possibility of medication errors.

Zeldox and Zyvox have similar prefixes and suffixes as both begin with the letter "Z" and end in "ox". The character length of each names is also similar (6 vs. 5 letters). They differ in dosage form but have similar dosing intervals (two times daily). When scripted they look similar (see below). There share three strengths, which can appear similar when scripted as well (20 mg and 200 mg, 40 mg and 400 mg and 60 mg and 600 mg). This confusion has been demonstrated also in the Celebrex and Celexa case, in which Celexa 20 mg has been misinterpreted as Celebrex 200 mg and vice versa.



We cited the example of a potential for fatal outcome if Zeldox were inadvertently dispensed for Zyvox, as a worst case scenario. The assumption that Zyvox would only be administered intravenously for the treatment of treat vancomycin resistant *Enterococcus faecium* infections and thus eliminating the potential for a serious medication error is unfounded. The DOSAGE and ADMINISTRATION section of the package insert for Zyvox specifically states that both oral and IV administration is appropriate for treatment of this type of infection. Again, we emphasize that post-marketing experience has demonstrated medication errors occurring irregardless of differences in the route of administration, especially if the names are

similar. We also believe it will not just be a problem if Zeldox is administered instead of Zyvox but also if Zyvox were administered in place of Zeldox. Zeldox will be utilized for the management of psychotic disorders and the control and short-term management of the agitated psychotic patient. The patient could experience a psychotic episode if their therapy was interrupted due to the administration of Zyvox rather than Zeldox.

With respect to OPDRA's concern about Zeldox and Vioxx, we believe that these two products are similar when scripted (see below) as well as when spoken. Both have a similar character length (6 vs. 5 letters). "Z's" and "V's" are often misinterpreted when written and especially when spoken. Again, we believe that there will be several verbal prescriptions written for Zeldox. We have similar safety concerns if these products were inadvertently administered for one another (i.e., Sulfa allergies associated with Vioxx and Psychotic episodes with Zeldox).

Zeldox	Vioxx
--------	-------

The fact that FDA allowed the co-existence of Zyvox and Vioxx in the marketplace is irrelevant. The sponsor of Zyvox committed to a phase IV study to actively monitor post-marketing medication errors with the understanding of 2 reported cases of actual confusion, will result in a proprietary name change. To date, there are six reports of potential confusion involving Zyvox and Vioxx.

With respect to Zoladex, OPDRA agrees the potential for confusion is relatively low. This name was identified only in the Expert Panel Discussion as a potential sound-alike/look-alike drug product.

- C. The firm proposes a post-marketing educational campaign to prevent medication errors. OPDRA believes that our pre-marketing evaluations and risk analysis is the best preventative tool in reducing medication errors related to similar names. The proposed educational campaign is directed at increasing the awareness of health care practitioners to the possibility of medication errors involved with prescribing and dispensing Zeldox. There is no scientific evidence that an increase in awareness by itself will prevent errors. Similar preventive measures were utilized for Celebrex's educational campaign and were *not* successful. The percent of error remained unchanged despite the sponsor's educational intervention.

III. RECOMMENDATIONS

The applicant has failed to provide persuasive data or evidence (i.e., independent analysis of the proposed name utilizing a larger sample size) to minimize the Agency's concern with regard to potential medication errors between Zeldox/Vioxx and Zyvox/Zeldox. Based on the lack of supportive data, recent post-marketing experience, and the two new sound-alike/look-alike drug products approved since this name was first reviewed by the LNC, OPDRA does not recommend the use of the proprietary name "Zeldox".

OPDRA would appreciate feedback of the final outcome of this consult. We are willing to meet with the Division for further discussion as well. If you have any questions concerning this review, please contact Carol Holquist, R.Ph. at 301-827-3244.

/s/

11-28-00

Carol Holquist, R.Ph.
Safety Evaluator
Office of Postmarketing Drug Risk Assessment (OPDRA)

Concur:

/s/

11/28/00

Jerry Phillips, R.Ph.
Associate Director for Medication Error Prevention
Office of Postmarketing Drug Risk Assessment (OPDRA)

cc: NDA 20-825

HFD-120; Division Files/Steve D. Hardeman, Project Manager

HFD-120; Russell Katz, Division Director

HFD-400; Jerry Phillips, Associate Director, OPDRA

Electronic only cc:

HFD-400; Peter Honig, Director, OPDRA

HFD-040; Patricia Staub, Senior Regulatory Review Officer, DDMAC

HFD-430; Patrick Guinn, Project Manager, OPDRA

HFD-400; Sammie Beam, Project Manager, OPDRA

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Groton Laboratories
Pfizer Inc
Eastern Point Road
Groton, CT 06340
Tel 860 441 4100

DESK COPY



Global Research & Development

September 29, 2000

Russell Katz, M.D., Director
Division of Neuropharmacological Drug Products
Center for Drug Evaluation and Research HFD #120
Woodmont II Building
ATT: DOCUMENT CONTROL ROOM
1451 Rockville Pike
Rockville, MD 20852
Dear Dr. Katz:

CONFIDENTIAL/TRADE SECRET
INFORMATION SUBJECT TO 18-USE-1905
AND TO WHICH ALL CLAIMS OF
PRIVILEGE AND CONFIDENTIALITY ARE
ASSERTED IN BOTH STATUTORY AND
COMMON LAW. FURTHER
DISSEMINATION MAY ONLY BE MADE
WITH THE EXPRESS WRITTEN
PERMISSION OF PFIZER INC

RE: NDA 20-919 - ZELDOX IM™ (ziprasidone mesylate) for Injection

UPDATED PATENT INFORMATION

Reference is made to our pending NDA 20-919 for Zeldox IM™ and to the Patent and Exclusivity information included with our original application. Pursuant to 21 CFR 314.53(d)(1), this amendment to NDA 20-919 notifies the Agency of the issuance of U.S. Patent 6,110,918 on August 29, 2000. Patent 6,110,918 covers the ziprasidone mesylate trihydrate salt of ziprasidone used in the intramuscular formulation. Patent 6,110,918 also provides for claims covering a method of treating a psychotic disorder, including specifically schizophrenia, migraine pain, and anxiety, comprising administration, including specifically intramuscular administration, of the ziprasidone mesylate trihydrate salt.

Updated patent and exclusivity information as well as patent certification, NDA Sections 13 and 14 respectively, are included in **Enclosure 1**.

Please include this information in our file for NDA 20-919.

Sincerely yours,

Charles A. Ritrovato, Pharm.D.
Director
Regulatory Affairs Department

CAR/rms
desk copy: Mr. S. Hardeman (cover letter only)

NDA-20-919 Submission No. 055

DEPARTMENT OF HEALTH AND HUMAN SERVICES
FOOD AND DRUG ADMINISTRATION

Form Approved: OMB No. 0910-0338
Expiration Date: March 31, 2003
See OMB Statement on page 2.

APPLICATION TO MARKET A NEW DRUG, BIOLOGIC,
OR AN ANTIBIOTIC DRUG FOR HUMAN USE

(Title 21, Code of Federal Regulations, Parts 314 & 601)

FOR FDA USE ONLY

APPLICATION NUMBER

APPLICANT INFORMATION

NAME OF APPLICANT

Pfizer Inc

DATE OF SUBMISSION

September 29, 2000

TELEPHONE NO. (Include Area Code)

(860) 441-6899

FACSIMILE (FAX) Number (Include Area Code)

(860) 441-0870

APPLICANT ADDRESS (Number, Street, City, State, Country, ZIP Code or Mail Code,
and U.S. License number if previously issued):

Eastern Point Road
Groton, CT 06340

AUTHORIZED U.S. AGENT NAME & ADDRESS (Number, Street, City, State,
ZIP Code, telephone & FAX number) IF APPLICABLE

PRODUCT DESCRIPTION

Zeldox (ziprasidone) intramuscular for injection

NEW DRUG OR ANTIBIOTIC APPLICATION NUMBER, OR BIOLOGICS LICENSE APPLICATION NUMBER (If previously issued)

NDA-20-919

ESTABLISHED NAME (e.g., Proper name, USP/USAN name)

ziprasidone mesylate

PROPRIETARY NAME (trade name) IF ANY

Zeldox IM TM

CHEMICAL/BIOCHEMICAL/BLOOD PRODUCT NAME (If any)
SEE ATTACHED

CODE NAME (If any)

CP-88,059

DOSAGE FORM:

intramuscular injection

STRENGTHS:

20 mg/mL

ROUTE OF ADMINISTRATION:

intramuscular

(PROPOSED) INDICATION(S) FOR USE:

Acute agitation in psychotic patients

APPLICATION INFORMATION

APPLICATION TYPE

(check one)

NEW DRUG APPLICATION (21 CFR 314.50)

ABBREVIATED NEW DRUG APPLICATION (ANDA, 21 CFR 314.94)

BIOLOGICS LICENSE APPLICATION (21 CFR Part 601)

IF AN NDA, IDENTIFY THE APPROPRIATE TYPE

505 (b)(1)

505 (b)(2)

IF AN ANDA, OR 505(b)(2), IDENTIFY THE REFERENCE LISTED DRUG PRODUCT THAT IS THE BASIS FOR THE SUBMISSION

Name of Drug

Holder of Approved Application

TYPE OF SUBMISSION (check one)

ORIGINAL APPLICATION

AMENDMENT TO A PENDING APPLICATION

RESUBMISSION

PRESUBMISSION

ANNUAL REPORT

ESTABLISHMENT DESCRIPTION SUPPLEMENT

EFFICACY SUPPLEMENT

LABELING SUPPLEMENT

CHEMISTRY MANUFACTURING AND CONTROLS SUPPLEMENT

OTHER

IF A SUBMISSION OF PARTIAL APPLICATION, PROVIDE LETTER DATE OF AGREEMENT TO PARTIAL SUBMISSION: _____

IF A SUPPLEMENT, IDENTIFY THE APPROPRIATE CATEGORY

CBE

CBE-30

Prior Approval (PA)

REASON FOR SUBMISSION

To provide updated patent information

PROPOSED MARKETING STATUS (check one)

PRESCRIPTION PRODUCT (Rx)

OVER THE COUNTER PRODUCT (OTC)

NUMBER OF VOLUMES SUBMITTED

1

THIS APPLICATION IS

PAPER

PAPER AND ELECTRONIC

ELECTRONIC

ESTABLISHMENT INFORMATION (Full establishment information should be provided in the body of the Application.)

Provide locations of all manufacturing, packaging and control sites for drug substance and drug product (continuation sheets may be used if necessary). Include name, address, contact, telephone number, registration number (CFN), DMF number, and manufacturing steps and/or type of testing (e.g. Final dosage form, Stability testing) conducted at the site. Please indicate whether the site is ready for inspection or, if not, when it will be ready.

See original application NDA-20-919

Cross References (list related License Applications, INDs, NDAs, PMAs, 510(k)s, IDEs, BMFs, and DMFs referenced in the current application)

See original
application

This application contains the following items: *(Check all that apply)*

1. Index		
2. Labeling <i>(check one)</i>	<input type="checkbox"/> Draft Labeling	<input type="checkbox"/> Final Printed Labeling
3. Summary (21 CFR 314.50 (c))		
4. Chemistry section		
A. Chemistry, manufacturing, and controls information (e.g., 21 CFR 314.50(d)(1); 21 CFR 601.2)		
B. Samples (21 CFR 314.50 (e)(1); 21 CFR 601.2 (a)) (Submit only upon FDA's request)		
C. Methods validation package (e.g., 21 CFR 314.50(e)(2)(i); 21 CFR 601.2)		
5. Nonclinical pharmacology and toxicology section (e.g., 21 CFR 314.50(d)(2); 21 CFR 601.2)		
6. Human pharmacokinetics and bioavailability section (e.g., 21 CFR 314.50(d)(3); 21 CFR 601.2)		
7. Clinical Microbiology (e.g., 21 CFR 314.50(d)(4))		
8. Clinical data section (e.g., 21 CFR 314.50(d)(5); 21 CFR 601.2)		
9. Safety update report (e.g., 21 CFR 314.50(d)(5)(vi)(b); 21 CFR 601.2)		
10. Statistical section (e.g., 21 CFR 314.50(d)(6); 21 CFR 601.2)		
11. Case report tabulations (e.g., 21 CFR 314.50(f)(1); 21 CFR 601.2)		
12. Case report forms (e.g., 21 CFR 314.50 (f)(2); 21 CFR 601.2)		
<input checked="" type="checkbox"/> 13. Patent information on any patent which claims the drug (21 U.S.C. 355(b) or (c))		
<input checked="" type="checkbox"/> 14. A patent certification with respect to any patent which claims the drug (21 U.S.C. 355 (b)(2) or (j)(2)(A))		
15. Establishment description (21 CFR Part 600, if applicable)		
16. Debarment certification (FD&C Act 306 (k)(1))		
17. Field copy certification (21 CFR 314.50 (k)(3))		
18. User Fee Cover Sheet (Form FDA 3397)		
19. Financial Information (21 CFR Part 54)		
20. OTHER <i>(Specify)</i>		

CERTIFICATION

I agree to update this application with new safety information about the product that may reasonably affect the statement of contraindications, warnings, precautions, or adverse reactions in the draft labeling. I agree to submit safety update reports as provided for by regulation or as requested by FDA. If this application is approved, I agree to comply with all applicable laws and regulations that apply to approved applications, including, but not limited to the following:

1. Good manufacturing practice regulations in 21 CFR Parts 210, 211 or applicable regulations, Parts 606, and/or 820.
2. Biological establishment standards in 21 CFR Part 600.
3. Labeling regulations in 21 CFR Parts 201, 606, 610, 660, and/or 809.
4. In the case of a prescription drug or biological product, prescription drug advertising regulations in 21 CFR Part 202.
5. Regulations on making changes in application in FD&C Act Section 506A, 21 CFR 314.71, 314.72, 314.97, 314.99, and 601.12.
6. Regulations on Reports in 21 CFR 314.80, 314.81, 600.80, and 600.81.
7. Local, state and Federal environmental impact laws.

If this application applies to a drug product that FDA has proposed for scheduling under the Controlled Substances Act, I agree not to market the product until the Drug Enforcement Administration makes a final scheduling decision.

The data and information in this submission have been reviewed and, to the best of my knowledge are certified to be true and accurate.

Warning: A willfully false statement is a criminal offense, U.S. Code, title 18, section 1001.

SIGNATURE OF RESPONSIBLE OFFICIAL OR AGENT 	TYPED NAME AND TITLE Charles A. Ritrovato, Pharm. D. Director, Regulatory Affairs Department	DATE 9/29/00
ADDRESS <i>(Street, City, State, and ZIP Code)</i> Eastern Point Road, Groton, Ct 06340		Telephone Number (860) 441-6899

Public reporting burden for this collection of information is estimated to average 24 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:

Department of Health and Human Services
Food and Drug Administration
CBER, HFM-99
1401 Rockville Pike
Rockville, MD 20852-1448

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.

Form FDA 356H Attachment

CHEMICAL/BIOCHEMICAL/BLOOD PRODUCT NAME

Ziprasidone Mesylate Chemical Name

5-[2-[4-(1,2-benzisothiazol-3-yl)-1-piperazinyl]ethyl]-6-chloro-1,3-dihydro-2H-indol-2-one
methanesulfonate trihydrate

**Appears This Way
On Original**

Office of Post-Marketing Drug Risk Assessment
HFD-400; Rm. 15B03
Center for Drug Evaluation and Research

PROPRIETARY NAME REVIEW

DATE OF REVIEW: July 24, 2000

NDA NUMBER: 20-825

NAME OF DRUG: Zeldox
(Ziprasidone Hydrochloride Capsules)
20 mg, 40 mg, 60 mg and 80 mg

and

Zeldox IM
(Ziprasidone Mesylate for Injection)
20 mg/mL

NDA HOLDER: Pfizer Pharmaceuticals, Inc.

INTRODUCTION

This consult was written in response to a request from the Division of Neuropharmacological Drug Products (HFD-120) for assessment of the tradename Zeldox, regarding potential name confusion with other proprietary/generic drug names.

The proposed proprietary name, Zeldox, was previously reviewed by the Labeling and Nomenclature Committee (LNC) on September 22, 1996. The committee concluded the name was acceptable because there were no sound-alike/look-alike products marketed at that time.

PRODUCT INFORMATION

Zeldox (ziprasidone) will be available as a 20 mg, 40 mg, 60 mg, and 80 mg capsule for oral administration and as a powder for injection, which will deliver 20 mg/mL when, reconstituted. The powder for injection is for intramuscular administration only. Ziprasidone is an antipsychotic, which is chemically unrelated to phenothiazine or butyrophenone antipsychotic agents. Its proposed antipsychotic activity is mediated through a combination of serotonin type 2A (5HT_{2A}) and dopamine type 2 (D₂) receptor antagonism. Zeldox Capsules are indicated for the management of the manifestations of psychotic disorders. Zeldox IM is indicated for the acute control and short-term management of the agitated psychotic patient. If indicated, the patient may continue with oral ziprasidone. Initial treatment with oral ziprasidone begins with a daily dose of 40 mg BID with food, up to 80 mg BID. An increase to a dose greater than 80 mg BID is recommended only after clinical assessment. The safety of doses above 100 mg BID has not been evaluated. An initial dose of 10 to 20 mg ziprasidone injection is recommended.

Subsequent doses of 10 mg may be administered as often as every 2 hours, or 20 mg every hours as needed. The maximum recommended dosage is 80 mg/day. Administration of ziprasidone intramuscularly for more than 3 consecutive days has not been studied.

II. RISK ASSESSMENT

The medication error staff of OPDRA conducted a search of several standard published drug product reference texts^{i,ii,iii} as well as several FDA databases^{iv} for existing drug names which sound alike or look alike to Zeldox to a degree where potential confusion between drug names could occur under the usual clinical practice settings. A search of the electronic online version of the U.S. Patent and Trademark Office's Text and Image Database was also conducted^v. An Expert Panel discussion was conducted to review all findings from the searches. In addition, OPDRA conducted three prescription analysis studies, to simulate the prescription ordering process.

A. EXPERT PANEL DISCUSSION

An Expert Panel discussion was held by OPDRA to gather professional opinions on the safety of the proprietary name Zeldox. Potential concerns regarding drug marketing and promotion related to the proposed name were also discussed. This group is composed of OPDRA Medication Errors Prevention Staff and representation from the Division of Drug Marketing and Advertising Communications (DDMAC). The group relies on their clinical and other professional experiences and a number of standard references when making a decision on the acceptability of a proprietary name.

Several product names were identified in the Expert Panel Discussion that were thought to have potential for confusion with Zeldox. These products are listed in Table 1, along with the dosage forms available and usual FDA-approved dosage.

DDMAC did not have any concerns about the name with regard to promotional claims.

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On Original

ⁱ MICROMEDEX Healthcare Intranet Series, 2000, MICROMEDEX, Inc., 6200 South Syracuse Way, Suite 300, Englewood, Colorado 80111-4740, which includes the following published texts: DrugDex, Poisindex, Martindale (Parfitt K (Ed), Martindale: The Complete Drug Reference. London: Pharmaceutical Press. Electronic version.), Index Nominum, and PDR/Physician's Desk Reference (Medical Economics Co. Inc, 2000).

ⁱⁱ American Drug index, 42nd Edition, 1999, Facts and Comparisons, St. Louis, MO.

ⁱⁱⁱ Facts and Comparisons, 2000, Facts and Comparisons, St. Louis, MO.

^{iv} COMIS, The Established Evaluation System [EES], the Labeling and Nomenclature Committee [LNC] database of Proprietary name consultation requests, New Drug Approvals 98-00, and online version of the FDA Orange Book.

^v WWW location <http://www.uspto.gov/tmdb/index.html>.

TABLE 1

		Initial treatment with oral Zoladex begins with a daily dose of 40 mg with an increase to 60 mg after 14 days.	
Zyvox	Linezolid Injection, Tablet or Oral Suspension 200 mg/400 mg and 600 mg premixed bag 100 mg/5 mL oral suspension 400 mg and 600 mg tablets	Depending on the organism 600 mg IV/Orally q12 hours or 400 mg orally q12hours	S/A, L/A per OPDRA
Zoladex	Goserelin Acetate Implant 3.6 mg and 10.8 mg preloaded syringes	3.6 mg administered subcutaneously every 28 days into the upper abdominal wall. 10.8 mg administered subcutaneously every 12 weeks into the upper abdominal wall.	S/A, L/A per OPDRA
Vioxx	Rofecoxib 12.5 mg/5 mL and 25 mg/5 mL Suspension and 12.5 mg or 25 mg Tablets	Osteo. – 12.5 mg once daily or 25 mg daily Acute Pain/Dysmenorrhea – 50 mg daily.	S/A, L/A per OPDRA
		*Frequently used, not all-inclusive.	**L/A (look-alike), S/A (sound-alike)

B. STUDY CONDUCTED BY OPDRA

1. Methodology

Three separate studies were conducted within FDA, to determine the degree of confusion of Zeldox with other U.S. drug names due to similarity in visual appearance with handwritten prescriptions or verbal pronunciation of the drug name. These studies employed a total of 91 health care professionals (nurses, pharmacists, and physicians). This exercise was conducted in an attempt to simulate the prescription ordering process. An OPDRA staff member wrote an inpatient order and outpatient prescriptions, each consisting of a combination of marketed and unapproved drug products and prescriptions for Zeldox (see below). These written prescriptions were optically scanned and one prescription was delivered via email to each study participant. In addition, one OPDRA staff member recorded a verbal inpatient

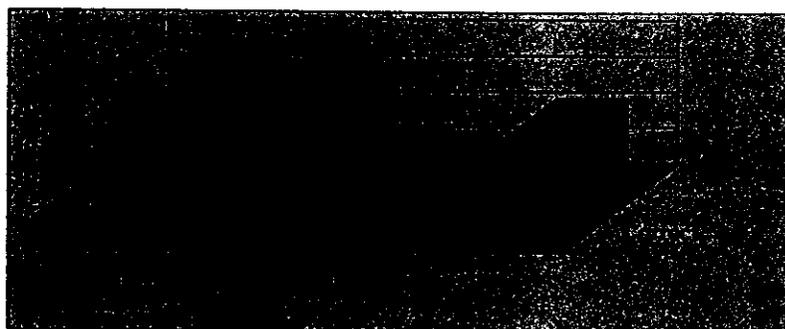
prescription that was then delivered to a group of study participants via telephone voicemail. Each reviewer was then requested to provide an interpretation of the prescription via email.

HANDWRITTEN PRESCRIPTIONS	VERBAL PRESCRIPTIONS
<p><i>Outpatient:</i></p> <p>Zeldox 40 mg Sig: i BID #60 No refills</p>	<p>Zeldox 40 mg one BID, number 60 with no refills</p>
<p><i>Inpatient:</i></p> <p>Zeldox 40 mg i po bid</p>	

2. Results

Results of these exercises are summarized below:

Study	No. of participants	# of responses (%)	"Zeldox" response	Other response
Written: Outpatient	30	21 (70 %)	20 (95 %)	1 (5 %)
Inpatient	30	22 (73 %)	16 (73 %)	6 (27 %)
Verbal: Outpatient	31	18 (58 %)	9 (50 %)	9 (50 %)
Total:	91	61 (67 %)	45 (49 %)	16 (18 %)



Correct
 Incorrect

Among participants in the written prescription studies, 7 of 61 respondents (12%) interpreted the name incorrectly. Most of the incorrect name interpretations were misspelled variations of "Zeldox".

Among verbal prescription study participants, 9 of 18 (50%) of the study participants interpreted the name incorrectly. Most of the incorrect name interpretations were phonetic variations of "Zeldox". *One participant commented that the name sounded like zolof.*

C. SAFETY EVALUATOR RISK ASSESSMENT

1. In reviewing the proprietary name "Zeldox", the primary concerns raised were related to a couple of sound-alike, look-alike names that already exist in the U.S. marketplace. Two products, Zyvox and Vioxx were believed to be the most problematic in terms of potential medication error.

We conducted prescription studies to simulate the prescription ordering process. *In this case, there was no confirmation that Zeldox could be confused with Zyvox or Vioxx.* One respondent provided Zovox as an interpretation to a verbal prescription, this is not the name of an approved drug product, however it is very similar to Zyvox, which is a marketed product. Zyvox was launched on April 24, 2000 of this year and Vioxx was launched May 20, 1999. All the names have similar character lengths, look similar when scripted and sound similar when spoken. Vioxx is a non-steroidal, anti-inflammatory agent administered daily and is available as an oral suspension (12.5 mg/5 mL and 25 mg/5 mL) and tablet (12.5 mg or 25 mg). The letter "Z" and "V" sound very similar when spoken. Zyvox is an antibiotic available as an oral solution (100 mg/5 mL), tablet (400 mg and 600 mg) and injection (200 mg/400 mg and 600 mg premixed bags) administered every 12 hours. Although these products do not have overlapping dosage forms or similar indications for use, the dosing interval and strengths are similar. Recent post-marketing experience with Celebrex (200 mg Capsule), Celexa (20 mg Tablet), and Cerebyx Injection has demonstrated that two different dosage forms with similar strengths and dosing intervals can easily be confused, especially when the proprietary names are similar. When scripted, "400 mg" and "40 mg" appear similar and could be misinterpreted. In addition, both products will be available in an injectable form. If Zeldox was inadvertently dispensed for Zyvox the clinical consequences could be fatal, given Zyvox can be utilized to treat vancomycin-resistant *Enterococcus faecium* infections and if this type of infection goes untreated it could result in death.

In addition, OPDRA recognizes the desire to utilize a modifier for the injectable form of Zeldox because it possesses a different salt. However, we do not recommend the use of the modifier "IM" for the following reasons:

- ⇒ Confusion with the use of the modifier "IM" was identified in a proprietary name study conducted by OPDRA for Menest IM. "IM" was interpreted as "1 mg". If the modifier "IM" was misinterpreted as "1 mg" in this case it would result in a 10 fold underdose of the medication.
- ⇒ The Agency has discouraged the use of the route of administration in the name because a firm may develop new dosage forms with or without differing routes of administration, and the name subsequently becomes misleading. For example, if the firm gets approval to administer this formulation by the intravenous route and the firm has IM in the name it would be misleading.

⇒ "IM" is a common medical abbreviation for the following: Ice massage, infectious mononucleosis, intermetatarsal, internal medicine, intramedullary and intramuscular. The Agency has always considered the use of coined abbreviations in conjunction with proprietary names objectionable since they can and have been misinterpreted.

To date, the Agency has not approved any drug products that utilize the modifier "IM" in conjunction with a proprietary name.

2. We note the firm intends to market a 20 mg strength capsule. This dose it is not utilized for any of the labeled indications. We recognize the use of this dosage in some pediatric studies, however the Agency usually does not include dosage forms and strengths utilized in clinical trials until the indication is approved. We recommend the firm delete reference to the 20 mg capsule from the HOW SUPPLIED section of the insert.

III. RECOMMENDATIONS

Based on recent post-marketing experience and the two new sound-alike/look-alike drug products approved since this name was first reviewed by the LNC, OPDRA does not recommend the use of the proprietary name "Zeldox".

OPDRA would appreciate feedback of the final outcome of this consult. We are willing to meet with the Division for further discussion as well. If you have any questions concerning this review, please contact Carol Holquist, R.Ph. at 301-827-3244.

/S/ 8-2-00
Carol Holquist, R.Ph.
Safety Evaluator
Office of Postmarketing Drug Risk Assessment (OPDRA)

Concur:

/S/ 8/4/2001
Jerry Phillips, R.Ph.
Associate Director for Medication Error Prevention
Office of Postmarketing Drug Risk Assessment (OPDRA)

cc: NDA 20-825,
HFD-120; Division Files/Steve D. Hardeman, Project Manager
HFD-120; Russell Katz, Division Director
HFD-400; Jerry Phillips, Associate Director, OPDRA

Electronic only cc:

HFD-002; Murray Lumpkin, Deputy Center Director for Review Management
HFD-400; Peter Honig, Director, OPDRA
HFD-040; Patricia Staub, Senior Regulatory Review Officer, DDMAC
HFD-430; Patrick Guinn, Project Manager, OPDRA
HFD-400; Sammie Beam, Project Manager, OPDRA

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12/15/98

NDA ACTION LETTER ROUTING RECORD

NDA#: 20-919

Date Received: December 11, 1998

Drug: Zeldox IM (ziprasidone Mesylate)

Division: HFD- 120

Type of Letter: AP AE NA

Drug Classification: 1S

Patent Info Received:

Safety Update:

Phase IV Commitment:

REVIEWER	RECEIPT	ACTION
1. Linda Carter Special Assistant to the Director Comments: <i>Goal Date 12/17/98</i>	Date <u>12/11/98</u> Initials <u>/S/</u>	Date <u>12/11/98</u> Initials <u>/S/</u>
2. Chemistry Review Comments: <i>The USAW name issue was forwarded to firm.</i>	Date <u>12-11-98</u> Initials <u>/S/</u>	Date <u>12-11-98</u> Initials <u>/S/</u>
3. Pharmacology & Toxicology Review Comments: <i>Discussed - accepted letter as written</i>	Date _____ Initials _____	Date _____ Initials _____
4. R. Temple, M.D. Director, Office of Drug Evaluation I Comments:	Date <u>12/11/98</u> Initials <u>/S/</u>	Date _____ Initials _____ Returned to Division for Corrections _____ Forwarded _____ Letter Signed _____

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NDA 20-919
Zeldox IM (ziprasidone mesylate)

Not Approvable Package

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- C. Action Letter (copy of signed letter)
- D. Labeling (sponsor)
- E. Patent Information
- F. Exclusivity Checklist
- G. Pediatric Page
- H. Debarment Certification
- I. DSI
 - * Audit Status (Comis Printouts - at time of action)
 - * List of Investigators
- J. Acting Division Director Memo (for NA action)
- K. Clinical Team Leader Memo (for NA action)
- L. Clinical Review
- M. Safety Update Review -- Not Applicable
- N. Statistical Review

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- O. Biopharmaceutics / Clinical Pharmacology Review
- P. Pharmacology / Toxicology / Carcinogenicity
- Q. Chemistry

Volume #3

- R. Correspondence -- None
- S. Minutes of Meetings
 - * Filing/Planning
- T. ISE
- U. ISS
- V. Submissions



Central Research

Department of Clinical Research

December 18, 1997

Paul Leber, M.D., Director
Division of Neuropharmacological Drug Products
Center for Drug Evaluation and Research HFD #120
Office of Drug Evaluation I
ATTN: DOCUMENT CONTROL ROOM #10B-34
5600 Fishers Lane
Rockville, MD 20857

CONFIDENTIAL/TRADE SECRET
INFORMATION SUBJECT TO 18-USE-1905
AND TO WHICH ALL CLAIMS OF PRIVILEGE
AND CONFIDENTIALITY ARE ASSERTED IN
BOTH STATUTORY AND COMMON LAW.
FURTHER DISSEMINATION MAY ONLY BE
MADE WITH THE EXPRESS WRITTEN
PERMISSION OF PFIZER INC.

Dear Dr. Leber:

RE: New Drug Application #20-919 - ZELDOX IM™ (ziprasidone mesylate) for Injection
Serial No. 000

Pursuant to Paragraph 505(b) of the Federal Food, Drug and Cosmetic Act, and Paragraph 314.1 of the Code of Federal Regulations, Title 21, we are submitting a New Drug Application (#20-919) for ZELDOX IM™ (ziprasidone mesylate) for control and management of agitation in patients with psychosis. Investigation of the intramuscular formulation of ziprasidone occurred under U.S. IND#49,045 which was filed on October 30, 1995.

The oral formulation of ziprasidone (ZELDOX™ Capsules) is the subject of pending NDA#20-825, submitted on March 17, 1997. As discussed with the DNDP at our pre-NDA meeting of August 13, 1997, certain information for the present NDA is incorporated by cross-reference to NDA#20-825 for ZELDOX™ Capsules. Detailed indexing is provided where appropriate to facilitate the location of cross-referenced information.

Reference is made to the Division's correspondence of March 20, 1996 suggesting that "the agitation and restlessness that often characterize acutely psychotic patients" would be a suitable focus for the development of intramuscular ziprasidone. As outlined in our clinical development plan submitted on May 17, 1996 (IND 49,045 Serial No. 016), this suggestion underlies the efficacy endpoints evaluated in clinical trials as well as the proposed indication for labeling.

This NDA reflects a cutoff date of July 30, 1997 and a database comprised of 523 ziprasidone-treated subjects, 142 haloperidol-treated subjects, and 6 placebo-treated subjects. Subject experience from six completed studies (046, 120, 121, 125, 126, 306) and two ongoing extension studies with oral ziprasidone (127E and 306E) is included in the safety database. The completed studies include double-blind and open-label studies with fixed-ziprasidone-dose

and flexible ziprasidone and haloperidol dose treatment regimens, with studies 120, 121 and 306 having both an intramuscular and oral dosing period.

We believe that the data included in this NDA establish the safety and efficacy of ZELDOX IM™ in the control and management of agitation in patients with psychosis. Primary evidence of efficacy is provided by trials 125 and 126, with trials 121 and 306 providing additional safety data and information relative to transition to oral therapy.

The recommended initial dose of ZELDOX IM™ is 10 to 20 mg, with subsequent doses administered as often as every 2 hours (10 mg) or every 4 hours (20 mg) as needed. The maximum recommended daily dose is 80 mg. Administration of ZELDOX IM™ for up to 3 consecutive days was evaluated in clinical trials.

To optimize the solubility of ziprasidone for the preparation of an intramuscular formulation, a mesylate salt of the drug was used in complex with the solubilizing excipient, sulphobutylether beta cyclodextrin (SBECD). Comprehensive information pertaining to the preclinical pharmacology, toxicology and pharmacokinetics of SBECD is contained within technical Section 5 of this NDA. As recommended by Dr. Maryla Guzewska during our CM&C pre-NDA meeting of August 14, 1997, chemistry, manufacturing and control information for SBECD is the subject of a recently submitted Type IV Drug Master File. A desk copy of this DMF has been provided to Dr. Guzewska as requested.

The chemistry, preclinical, and clinical data obtained during the investigations of ZELDOX IM™ under IND#49,045 have been organized in this Application in accord with the requirements as currently set forth under Paragraph 314.50 of the Code of Federal Regulations, Title 21. This Application is also provided in electronic format, in a system analogous to that used for the ZELDOX™ Capsules NDA. All text and imaged information supplied electronically is identical to that provided in hardcopy. Please note, however, that case report forms (CRFs) and case report form tabulations are being supplied electronically only, in accordance with the Agency's September 1997 Guidance for Industry on Archiving Submissions in Electronic Format.

Applications for marketing approval of ZELDOX IM™ are soon to be filed in Canada and Europe. Currently, ZELDOX™ is not marketed in any country.

The Sponsor hereby certifies that a field copy of portions of this Application has been provided to the FDA district office in Brooklyn, NY, and that it is an exact copy of the Chemistry, Manufacturing and Controls section, Form FDA 356h and the Application Summary contained in the archival and review copies of this NDA.

This Application consists of 57 volumes, numbered consecutively beginning with Volume 1.1 and ending with Volume 1.57. With the exception of CRFs and CRF tabulations supplied electronically as noted above, we have provided a complete archival copy (blue binders) of all 57 volumes and appropriate review copies of technical sections. Twelve additional copies of the Application Summary (NDA Section 2, Volumes 1.1 and 1.2) have been included for provision to individual reviewers as necessary. Attachment I of this letter provides the location for the various sections of this NDA and additional explanatory notes about the Application.

December 18, 1997

In accordance with the requirement of the Generic Drug Enforcement Act of 1992, and in connection with this Application, to the best of its knowledge, Pfizer Inc did not use in any capacity the services of any person debarred under Section 306 of the Federal Food, Drug, and Cosmetic Act.

Please be advised that the applicable user fee for this submission has been remitted in accordance with the Prescription Drug User Fee Act of 1992. We believe NDA #20-919 to be complete for review by the Division and look forward to working closely with the Division during the User Fee review cycle.

Should you have any questions regarding the organization or content of this Application, please contact Dr. Charles A. Ritrovato at (860) 441-6899 (phone) or (860) 441-0870 (fax).

Sincerely yours,



Charles A. Ritrovato, Pharm.D.
Senior Associate Director
Regulatory Affairs Department



Steven W. Ryder, M.D.
Senior Vice President
U.S. Clinical Research

CAR/mfb
Enclosures

Attachment I

<u>Section</u>	<u>Title</u>	<u>Volume</u>
1.	Index (plain blue)	1.1
2.	Application Summary & Patient Narratives	1.1 - 1.2
3.	Chemistry, Manufacturing and Control (red)	1.3 - 1.9
4.	Methods Validation (red)	1.10
5.	Nonclinical Pharmacology and Toxicology	1.11 - 1.21
6.	Human Pharmacokinetics and Bioavailability	1.22 - 1.27
7.	Microbiology - Not Applicable	
8.	Clinical Data (light brown)	1.28 - 1.57
9.	Safety Update - Not Applicable at this time	
10.	Statistical Data (green)	1.28 - 1.57
11.	Case Report Tabulations (Supplied Electronically Only)	
12.	Case Report Forms (Supplied Electronically Only)	
13.	Patent Information	1.1
14.	Patent Certification	1.1
15.	Other - Not Applicable	

Please note the following:

1. A completed Form FDA 356h [with Patent Information (Section 13) and Patent Certification (Section 14) attached] and Index are provided with the Application Summary.
2. As was done with NDA#20-825 for Zeldox™ Capsules, display of individual patient data over time is presented in specialized "Patient Profiles" according to the design suggested by the Division. These "Patient Profiles" are readily accessible from within the electronic submission, and are not contained within the hardcopy of the NDA.
3. In accordance with Title 21 CFR 314.50(e), a Methods Validation package is provided. We have included this information in Section 4 (Volume 1.10), Methods Validation. Section 4 contains the identity of samples for Methods Validation (provided upon request), specifications and analytical methodology, characterization, and copies of draft labels, and labeling.
4. In accordance with Title 21 CFR 25.1 and 25.31a, an Environmental Assessment is provided in Section 3 of the Chemistry, Manufacturing, and Control Technical Section (Volume 1.7)
5. A field copy of portions of this Application has been provided to the FDA District Office in Brooklyn, NY in accordance with Title 21 CFR 314.50 and 314.94.
6. Reference is made to Title 21 CFR 312.120 regarding foreign clinical studies not conducted under an IND. A compliance statement for such studies can be found in the Clinical Data Section (Section 8, Volume 1.28).

7. A statement concerning the transfer of obligations to contract research organizations in accordance with Title 21 CFR 314.50(d)(5)(x) is included in the Clinical Data Section (Section 8, Volume 1.28).

Appears This Way
On Original

1 Page(s) Withheld

 ✓ § 552(b)(4) Trade Secret / Confidential

 § 552(b)(5) Deliberative Process

 § 552(b)(5) Draft Labeling

Investigator List

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
PROTOCOL 021					
Phase I Investigator-Blind, Placebo-Controlled Evaluation of the Safety, Tolerant and Pharmacokinetics of Ziprasidone Following Escalating Single Cyclodextrin-Based (CP-217,861-02) Intramuscular Doses in Healthy, Male Volunteers					1.26
Stuart Oliver, M.D.	--	Besselaar Clinical Research Unit Springfield House Hyde Street Leeds West Yorkshire LS2 9NG England	033-708	COMPLETED	
PROTOCOL 027					
Phase I Open Study to Compare the Pharmacokinetics of Ziprasidone Administered Intravenously Intramuscularly and Orally to Healthy Subjects					1.24
Suzanne Swan, M.D. Clinical Research Unit of the Drug Evaluation Unit Hennepin County Medical Center 914 South 8th Street Minneapolis, MN 55404	/	Clinical Research Unit of the Drug Evaluation Unit Hennepin County Medical Center 914 South 8th Street Minneapolis, MN USA 55404	037-723	COMPLETED	
PROTOCOL 028					
Phase I Investigator-Blind Placebo-Controlled Evaluation of the Safety Tolerant and Pharmacokinetics of Ziprasidone Mesylate Following Single Cyclodextrin-Based (SBECD) Intramuscular Doses in Healthy Subjects					1.25
Suzanne Swan, M.D. Clinical Research Unit of the Drug Evaluation Unit Hennepin County Medical Center 914 South Eighth Street Minneapolis, MN 55404	/	Clinical Research Unit of the Drug Evaluation Unit Hennepin County Medical Center 914 South Eighth Street Minneapolis, MN USA 55404	036-723	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
PROTOCOL 048 1.23 Phase I Investigator-Blind Placebo-Controlled Evaluation of the Safety Toleration and Pharmacokinetics of Ziprasidone Mesylate Following Multiple Intramuscular Doses in Subjects With Chronic or Subchronic Schizophrenia or Schizoaffective Disorder					
Sheldon Preskorn, M.D. Psychiatric Research Institute 1100 North St. Francis Suite 200 Wichita, KS 67214		Psychiatric Research Institute 1100 North St. Francis Suite 200 Wichita, KS USA 67214	046-557	COMPLETED	
PROTOCOL 120 1.43 A Phase II, Single Centre, Open Label Study Evaluating the Tolerability and Safety of 3 Days of Treatment With Intramuscular Ziprasidone (CP-88,059-27) (10 To 80 mg Daily) Followed by 2 Days of Treatment With Oral Ziprasidone (CP-88,059-1) (40 To 200 mg Daily) in Psychotic Inpatients					
Shlomo Brook, M.D.		Ward 1: Research Unit Sterkfontein Hospital Sterkfontein Road Krugersdorp, South Africa	120-747	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
PROTOCOL 121					1.37
A Phase III Randomized Multicenter Open Label Study Evaluating the Toleration and Safety of 3 Days of Treatment With Intramuscular Ziprasidone (CP-88,059-27) (20 to 80 mg Daily) or Haloperidol (Up to 40 mg Daily) Followed by 4 Days of Treatment With Oral Ziprasidone (CP-88,059-1) (40 to 200 mg Daily) or Haloperidol in Subjects With a Diagnosis of Psychotic Disorder					
Joseph McEvoy, M.D. John Umstead Hospital 1003 12th Street Butner, NC 27509	/	Adult Admission Unit John Umstead Hospital 1003 12th Street Butner, NC USA 27509	121-520	COMPLETED	
Steven Targum, M.D. Delaware Valley Clinical Studies Center 1015 Chestnut Street Suite 1303 Philadelphia, PA USA 19107		Charter Fairmount 581 Fairthorne Avenue Philadelphia, PA 19128 and Community Hospital A Division of Crozer Chester Medical Center 2800 West 9th Street Chester, PA 19013	121-534	COMPLETED	
Barbara Kennedy, M.D. Department of Psychiatry and Behavioral Sciences University of Louisville Ambulatory Care Building 560 South Jackson Street Louisville, KY 40202		University Psychiatric Services Ambulatory Care Building 650 South Jackson Street Louisville, KY USA 40202	121-565	COMPLETED	
Jeffrey Apter, M.D. Princeton Psychiatric Centers PA Princeton Biomedical Research, PA 256 Bunn Drive Suite 6 Princeton, NJ USA 08540		Princeton House 905 Herrontown Road Princeton, NJ 08540 and	121-576	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS:

<u>INVESTIGATOR ADDRESS</u>	<u>SUBINVESTIGATORS</u>	<u>STUDY SITES</u>	<u>STUDY NO.</u>	<u>STUDY STATUS</u>	<u>SUMMARY VOLUME</u>
---------------------------------	-------------------------	--------------------	----------------------	-------------------------	---------------------------

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256 Bunn Drive
Suite 8
Princeton, NJ 08540

and

Princeton Biomedical Research Axelrad
Building 809 River Avenue
Lakewood, NJ 08701

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

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David Daniel, M.D. Washington Clinical Research Center 6404-P Seven Corners Place Falls Church, VA 22204		Washington Clinical Research Center 6404-P Seven Corners Place Falls Church, VA USA 22044 and Dominion Hospital 2960 Steeple Hollow Road Falls Church, VA 22044 and Vencor Hospital 801 South Carlin Springs Road Arlington, VA 22204-1096	121-581	COMPLETED	
Robert Riesenberg, M.D. Biobehavioral Associates 625 Dekalb Industrial Way Decatur, GA USA 30033		Dekalb Medical Center 2701 North Decatur Road Decatur Ga 30033	121-589	COMPLETED	

s.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Samuel Risch, M.D. Institute of Psychiatry PH 502N Medical University of South Carolina Institute of Psychiatry 171 Ashley Avenue Charleston, SC 29425-0742		Medical University of South Carolina Institute of Psychiatry PH 171 Ashley Avenue Charleston, SC USA 29425-0742	121-590	COMPLETED	
Dan Zimbroff, M.D. Loma Linda University 1710 Barton Road Redlands, CA 92373		Behavioral Medicine Center Loma Linda University 1710 Barton Road Redlands, CA USA 92373	121-595	COMPLETED	
Alan Green, M.D. Commonwealth Research Center Massachusetts Mental Health Center 74 Fenwood Road Boston, MA 02115		Commonwealth Research Center Massachusetts Mental Health Center 74 Fenwood Road Boston, MA USA 02115	121-604	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Ede Frasca, M.D. Veterans Affairs Medical Center Office of Psychiatry 116A 79 Middleville Road Northport, NY 11768		Department of Psychiatry Veterans Affairs Medical Center 79 Middleville Road Northport, NY USA 11768	121-637	COMPLETED	
Christopher Reist, M.D. Longbeach Veterans Affairs Medical Center 116A 5901 East 7th Street Longbeach, CA 90822		Longbeach Veterans Affairs Medical Center 116A 5901 East 7th Street Longbeach, CA USA 90822	121-643	COMPLETED	
S. Charles Schultz, M.D. Department of Psychiatry Hanna Pavillion 1111 Case Western Reserve University 11100 Euclid Avenue Cleveland, OH USA 44106		University Hospitals of Cleveland Department of Psychiatry Hanna Pavilion 11100 Euclid Avenue Cleveland, OH 44106-5000	121-644	COMPLETED	
Karen Weihs, M.D. George Washington University 2300 Eye Street Northwest Ross Hall Room 612 Washington, DC USA 20037		Clinical Psychiatric Research Center George Washington University Medical Center 2300 Eye Street Northwest Ross Hall Room 730 Washington, DC 20037	121-650	COMPLETED	
		and			
		George Washington Hospital 901 23rd Street Northwest 6-North			

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
		Washington, DC 20037			
Jambur Ananth, M.D. Harbor University of California Los Angeles Medical Center 1000 West Carson Street Building 1 South Torrance, CA 90509		Harbor University of California Los Angeles Medical Center 1000 West Carson Street Building 1 South Torrance, CA USA 90509	121-663	COMPLETED	
Alain Labelle, M.D. Royal Ottawa Hospital 1145 Carling Avenue Ottawa Ontario K1Z 7K4		Royal Ottawa Hospital 1145 Carling Avenue Ottawa Ontario Canada K1Z 7K4	121-688	COMPLETED	
Farooq Amin, M.D. Department of Psychiatry Baylor College of Medicine Houston, TX USA 77030		Houston Veterans Affairs Medical Center 2002 Holcombe Boulevard Houston, TX 77030	121-691	COMPLETED	
Daniel Van Kammen, M.D. Veterans Affairs Medical Center 7180 Highland Drive Pittsburgh, PA 15206		Veterans Affairs Medical Center 7180 Highland Drive Pittsburgh, PA USA 15206	121-701	COMPLETED	
James Hartford, M.D. Hartford Research Group 10550 Montgomery Road Suite 20 Cincinnati, OH 45242		Hartford Research Group 3120 Burnet Avenue Suite 103 Cincinnati, OH 45229	121-705	COMPLETED	

and

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS:

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
		The Christ Hospital 2139 Auburn Avenue Cincinnati, OH 45219			
Gary Kaplan, M.D. Veterans Affairs Medical Center 830 Chalkstone Avenue Providence, RI 02908		Veterans Affairs Medical Center (151) 830 Chalkstone Avenue Providence, RI USA 02908	121-709	COMPLETED	
David Brown, M.D. Community Clinical Research Incorporated 4411 Medical Parkway Austin, TX USA 78756		Charter Hospital 8402 Cross Park Drive Austin, TX 78754 and Community Clinical Research Incorporated 4411 Medical Parkway Austin, TX 78756	121-719	COMPLETED	
Dennis Pavlinac, M.D. 3907 Waring Road Suite 3 Oceanside, CA USA 92056		Tri-City Medical Center 4002 Vista Way Oceanside, CA 92056	121-735	COMPLETED	
Narayana Reddy, M.D. Health Advance Institute One Illini Drive Peoria, IL USA 61605		Methodist Medical Center of Illinois 221 Northeast Glen Oak Avenue Peoria IL 61636	121-736	COMPLETED	

9.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS:

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Faruq Abuzzahab, Sr., M.D. Clinical Psychopharmacology Consultants PA Riverside Park Plaza Suite 303 701 25th Avenue South Minneapolis, MN USA 55454-1443		Fairview Riverside Medical Center 2450 Riverside Avenue Minneapolis, MN 55454	121-752	COMPLETED	
George Ainslie, M.D. Department of Veterans Affairs Medical Center 1400 Blackhorse Hill Road Coatesville, PA 19320		Department of Veterans Affairs Medical Center Psychiatry Service 118A Building 38 1400 Blackhorse Hill Road Coatesville, PA USA 19320	121-753	COMPLETED	
Daniel Buffington, Pharm.D. Clinical Pharmacology Services Incorporated 3500 East Fletcher Avenue Suite 210 Tampa, FL 33613-4712		Clinical Pharmacology Services Incorporated 3500 East Fletcher Avenue Suite 210 Tampa, FL USA 33613-4712 and TGH Psychiatry Center 3515 East Fletcher Avenue Tampa, FL 33613	121-754	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
George Grossberg, M.D. Saint Louis University Medical Center 1221 South Grand Boulevard St. Louis, MO 63104		Saint Louis University Health Sciences Center School of Medicine 1221 South Grand Boulevard St. Louis, MO USA 63104	121-755	COMPLETED	
Gunnar Larson, M.D. Psychiatry Service 116A Veterans Affairs Medical Center 5000 West National Avenue Milwaukee, WI 53295		Veterans Affairs Medical Center 5000 West National Avenue Milwaukee, WI USA 53295	121-756	COMPLETED	
H. Edward Logue, M.D. Birmingham Psychiatry Pharmaceutical Studies Incorporated 3490 Independence Drive Birmingham, AL USA 35209		Brockwood Medical Center 2010 Medical Center Drive Birmingham, AL 35209 and Birmingham Psychiatry Pharmaceutical Studies Incorporated 3490 Independence Drive Birmingham, AL 35209	121-757	COMPLETED	
Alfredo Suescum, M.D. The Institute for Clinical Research Incorporated 8122 Datapoint Drive #1010 San Antonio, TX USA 78229		Laurel Ridge Hospital 17720 Corporate Woods Drive San Antonio, TX 78259	121-759	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS:

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
George Trapp, M.D. Dallas Veterans Affairs Medical Center 4500 South Lancaster Road Dallas, TX 75216		Dallas Veterans Affairs Medical Center Psychiatry Service 116A 4500 South Lancaster Road Dallas, TX USA 75216	121-760	COMPLETED	
Wilson Lit, M.D. Homewood Health Centre Incorporated 150 Delhi Street Guelph Ontario N1E 6K9		Homewood Health Centre Incorporated 150 Delhi Street Guelph Ontario Canada N1E 6K9	121-781	COMPLETED	
Adam Wolkin, M.D. New York Department of Veterans Affairs Medical Center (NYDVAMC) 423 East 23rd Street New York, NY 10010		New York Department of Veterans Affairs Medical Center 423 East 23rd Street New York, NY USA 10010	121-782	COMPLETED	
Allen Childs, M.D. Steven Stanislav, Pharm.D. The Institute for Clinical Research Incorporated 8122 Datapoint Drive #1010 San Antonio, TX USA 78229		Healthcare Rehabilitation Center 1106 West Diltmar Road Austin, TX 78745	121-783	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Matthew Menza, M.D. University of Medicine and Dentistry of New Jersey University Behavioral Health Care 671 Hoes Lane Piscataway, NJ 08854		University of Medicine and Dentistry of New Jersey Robert Wood Johnson Medical School Department of Psychiatry 675 Hoes Lane Piscataway, NJ USA 08854	121-764	COMPLETED	
Scott West, M.D. Cutler and West PA Psychiatric Institute of Florida 341 North Maitland Avenue Suite 260 Maitland, FL 32751		University Behavioral Center 2500 Discovery Drive Orlando, FL 32826 and Psychiatric Institute of Florida 341 North Maitland Avenue Suite 260 Maitland, FL USA 32751	121-765	COMPLETED	
James Miller, Jr., M.D. Clinical Studies Melbourne 1360 Sarno Road Suite B Melbourne, FL 32935		Clinical Studies Melbourne 1360 Sarno Road Suite B Melbourne, FL USA 32935 and Circles of Care 400 East Sheridan Road Melbourne, FL 32901	121-767	COMPLETED	
Jose De La Gandara, M.D. Fair Oaks Hospital 5440 Linton Boulevard Delray Beach, FL 33484		2161 Palm Beach Lakes Boulevard West Palm Beach, FL USA 33409	121-770	COMPLETED	

#.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS:

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Frank Miller, M.D. 16 South Main Street S-502 Greenville, SC 29607		Medquest Incorporated 552-A Memorial Drive Extension Greer, SC 29651 and Charter Hospital 2700 East Phillips Road Greer, SC 29650	121-771	COMPLETED	
Richard Steinbook, M.D. Jackson Memorial Medical Center University of Miami School of Medicine Mental Health Institute Room 112B 1811 Northwest 12th Avenue Miami, FL USA 33136		Jackson Memorial Medical Center/University of Miami School of Medicine Mental Health Institute Emergency Room and Inpatient Units 1811 Northwest 12th Avenue Miami, FL 33136	121-774	COMPLETED	
Satish Shrikhande, M.B.B.S. Department of Psychiatry University of Saskatchewan Royal University Hospital 103 Hospital Drive Saskatoon SK S7N0W8 Canada		Department of Psychiatry University of Saskatchewan Royal University Hospital 103 Hospital Drive Saskatoon SK Canada S7N0W8	121-775	COMPLETED	
Ileana Berman, M.D. Taunton State Hospital PO Box 4007 Taunton, MA 02780		Taunton State Hospital 60 Hodges Avenue Taunton, MA USA 02780	121-780	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
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1.29

PROTOCOL 125

A Phase III Randomized Study Comparing 2 Doses of Intramuscular Ziprasidone (2 mg and 10 mg) in Subjects With Psychosis and Acute Agitation

Michael Kronig, M.D.
Hillside Hospital A
Division of Long Island Jewish Medical
Center
75-59 263rd Street
Glen Oaks, NY 11004

Dr.

Hillside Hospital Lowenstein Research
Building A
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125-514 COMPLETED

Steven Targum, M.D.
Clinical Studies Philadelphia
400 Market Street
Suite 425
Philadelphia, PA USA 19106

Crozer-Chester Medical Center
One President's Boulevard
Old Main
Upland, PA 19013

125-534 COMPLETED

and

Crozer-Chester Medical Center
Community Division
2900 West 9th Street
Chester, PA 19013

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Alan Buffenstein, M.D. 2499 John Burns School of Medicine Department of Psychiatry 1356 Lusitana Street 4th Floor Honolulu, HI USA 96813		The Queens Medical Center 1301 Punchbowl Street Honolulu, HI 96813-	125-542	COMPLETED	
Jeffrey Apter, M.D. Princeton Biomedical Research 256 Bunn Drive Suite 6 Princeton, NJ 08540		Princeton Biomedical Research 256 Bunn Drive Suite 6 Princeton, NJ 08540	125-576	COMPLETED	
		and			
		809 River Avenue Axelrad Building Lakewood, NJ 08701			
		and			
		Princeton House 905 Harrontown Road Princeton, NJ 08540			
		and Mule Road Professional Building 871 Route 37 West Suite E-8 Toms River, NJ 08755			

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Ari Kiev, M.D. Stony Lodge Hospital Croton Dam Road Ossining, NY 10510		Social Psychiatry Research Institute 150 East 69th Street Suite 2H New York, NY USA 10021	125-585	COMPLETED	
Robert Riesenberg, M.D. BioBehavioral Associates 625 Dekalb Industrial Way Decatur, GA USA 30033		Dekalb Medical Center 2701 North Decatur Road Decatur, GA 30033 and BioBehavioral Associates 625 Dekalb Industrial Way Decatur, GA 30033	125-589	COMPLETED	
Dan Zimbroff, M.D. 1317 West Foothill Boulevard Suite 140 Upland, CA USA 91786		Behavioral Medicine Center Loma Linda University Medical Center 1710 Barton Road Redlands, CA 92373 and Pacific Clinical Research 1317 West Foothill Boulevard 140 Upland, CA 91786	125-595	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
David Garver, M.D. 4500 South Lancaster Road 116A Dallas, TX USA 75216		Dallas Veterans Affairs Medical Center 4500 South Lancaster Road Dallas, TX 75216	125-599	COMPLETED	
Larry Davis, M.D. Davis Clinic PC 902 East Locust Street Oney, IL 62450		Richland Memorial Hospital 800 East Locust Street Oney, IL 62450 and Davis Clinic PC 902 East Locust Street Oney, IL USA 62450	125-633	COMPLETED	
James Chou, M.D. Nathan S Kline Institute for Psychiatric Research 140 Old Orangeburg Road Building 37 Orangeburg, NY USA 10962		Bellevue Hospital Center 462 First Avenue 21W 13 New York, NY 10016	125-653	COMPLETED	
Jambur Ananth, M.D. Harbor-University of California Los Angeles Medical Center 1000 West Carson Street Building 1-South Box 497 Torrance, CA 90505-2910		Harbor-University of California Los Angeles Medical Center 1000 West Carson Street Building 1-South Box 497 Torrance, CA USA 90505-2190	125-663	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Arthur Freeman, III, M.D. Department of Psychiatry Louisiana State University Medical Center 1501 Kings Highway Shreveport, LA 71130-3932		Department of Psychiatry Room 3-412 Louisiana State University Medical Center 1501 Kings Highway Shreveport, LA USA 71130-3932	125-686	COMPLETED	
Wayne Fenton, M.D. CPC Health/Chestnut Lodge Hospital 500 West Montgomery Avenue Rockville, MD 20850		CPC Health/Chestnut Lodge Hospital 500 West Montgomery Avenue Rockville, MD USA 20850 and ASCO Healthcare Incorporated 9036 Junction Drive Annapolis Junction, MD 20701-1152	125-697	COMPLETED	
James Hartford, M.D. Hartford Research Group 10550 Montgomery Road Suite 20 Cincinnati, OH USA 45242		Hartford Research Group 3120 Burnet Avenue Suite 103 Cincinnati, OH 45229 and The Christ Hospital 2139 Auburn Avenue Cincinnati, OH 45219	125-705	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Luisito Roxas, M.D. Saint Alexius Medical Center 900 East Broadway Bismarck, ND 58501		Archway Mental Health Services 900 East Broadway Box 5510 Bismarck, ND USA 58501	125-707	COMPLETED	
David Brown, M.D. 4411 Medical Parkway Austin, TX 78756		Charter Hospital of Austin 8402 Cross Park Drive Austin, TX 78754	125-719	COMPLETED	
		and			
		4411 Medical Parkway Austin, TX USA 78756			
George Grossberg, M.D. Saint Louis University Medical Center 1221 South Grand Boulevard St. Louis, MO 63014		Saint Louis University Health Sciences Center School of Medicine 1221 South Grand Boulevard St. Louis, MO USA 63104	125-755	COMPLETED	
Scott West, M.D. Director of Biological Psychiatry Programs Psychiatric Institute of Florida 341 North Maitland Avenue Suite 260 Maitland, FL USA 32751		Psychiatric Institute of Florida 341 North Maitland Avenue Suite 260 Maitland, FL 32751	125-765	COMPLETED	
		and			
		University Behavioral Center 2500 Discovery Drive Orlando, FL 32802			

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS:

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
James Miller, Jr, M.D. Clinical Studies Melbourne 1360 Sarno Road Suite B Melbourne, FL 32935		Clinical Studies Melbourne 1360 Sarno Road Suite B Melbourne, FL USA 32935 and Circles of Care 400 East Sheridan Road Melbourne, FL 32901	125-767	COMPLETED	
Richard Steinbook, M.D. Jackson Memorial Medical Center 1811 Northwest 12th Avenue MH Institute Room 112B Miami, FL 33136		Jackson Memorial Medical Center University of Miami School of Medicine Department of Psychiatry 1811 Northwest 12th Avenue MH Institute Room 112B Miami, FL USA 33136	125-774	COMPLETED	
Ileana Berman, M.D. Taunton State Hospital/ Southeastern Area of Massachusetts 80 Hodges Avenue Taunton, MA 02780		Taunton State Hospital 80 Hodges Avenue Taunton, MA USA 02780	125-780	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Michael Lesem, M.D. 6750 West Loop South Suite 1050 Bellaire, TX 77401		Claghorn-Lesem Research Clinic Incorporated 6750 West Loop South Suite 1050 Bellaire, TX USA 77401 and West Oaks Hospital 6500 Hornwood Houston, TX 77074	125-782	COMPLETED	
Shuja Haque, M.D. Veterans Affairs Medical Center 2 South 4646 John R Detroit, MI 48201		Veterans Affairs Medical Center 2 South 4646 John R Detroit, MI USA 48201	125-784	COMPLETED	
Craig Johnson, M.D. The Promedica Research Center 3758 Lavista Road Suite 100 Tucker, GA 30084		Northside Hospital Behavioral Medicine Unit 1000 Johnson Ferry Road Northeast Atlanta, GA 30342 and The Promedica Research Center 3758 Lavista Road Suite 100 Tucker, GA USA 30084	125-785	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Arifula Khan, M.D. Hambleton Professional Building 10126 Northeast 132nd Street Suite B Kirkland, WA 98034		Hambleton Professional Building 10126 Northeast 132nd Street Suite B Kirkland, WA USA 98034 and Overlake Hospital 1035 116th Avenue Northeast Bellevue, WA 98004	125-788	TERMINATED	
John Zajecka, M.D. Women's Board Depression Treatment and Research Center Rush-Presbyterian-Saint Luke's Medical Center 1725 West Harrison Street Suite 995 Chicago, IL 60612		Women's Board Depression Treatment and Research Center Rush-Presbyterian Saint Luke's Medical Center 1725 West Harrison Street Suite 955 Chicago, IL USA 60612	125-789	COMPLETED	
Ronald Brenner, M.D. Saint Johns Episcopal Hospital South Shore 327 Beach 19th Street Far Rockaway, NY 11691		Saint Johns Episcopal Hospital South Shore 327 Beach 19th Street Far Rockaway, NY USA 11691	125-795	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS:

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
PROTOCOL 128					1.33
A Phase III Randomized Study Comparing 2 Doses of Intramuscular Ziprasidone (2 Mg And 20 Mg) in Subjects With Psychosis and Acute Agitation					
Thomas Posever, M.D. Bay Cove Mental Health Center Inpatient Wards Lemuel Shattuck Hospital 170 Morton Street Boston, MA 02130		Bay Cove Mental Health Center Lemuel Shattuck Hospital 170 Morton Street Boston, MA USA 02130	126-509	COMPLETED	
Steven Potkin, M.D. University of California Irvine Medical Center 101 The City Drive South Route 88 Orange, CA 92668-3298		University of California Irvine Medical Center 101 The City Drive South Route 88 Orange, CA USA 92668-3298	126-529	COMPLETED	
Sheldon Preskorn, M.D. Psychiatric Research Institute 1100 North Saint Francis Suite 200 Wichita, KS 67214		Psychiatric Research Institute 1100 North Saint Francis Suite 200 Wichita, KS USA 67214	126-557	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Alice Chenaut, M.D. 2336A Whitesburg Drive Huntsville, AL USA 35801		Huntsville Research Associates 2336A Whitesburg Drive Huntsville, AL USA 35801 and Huntsville Hospital 101 Sivey Road Huntsville, AL 35801	126-578	COMPLETED	
David Daniel, M.D. Washington Clinical Research Center 6404-P Seven Corners Place Falls Church, VA 22044		Washington Clinical Research Center 6404-P Seven Corners Place Falls Church, VA USA 22044 and Columbia/Dominion Hospital 2980 Sleepy Hollow Road Falls Church, VA 22044 and Columbia/Arlington Hospital 1701 North George Mason Drive Arlington, VA 22205 and Vencor Hospital-Arlington 601 South Carlin Springs Road Arlington, VA 22204	126-581	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Charles Merideth, M.D. Affiliated Research Institute 8880 Rio San Diego Drive Suite 1090 San Diego, CA 92108		Affiliated Research Institute 8880 Rio San Diego Drive Suite 1090 San Diego, CA USA 92108	126-587	COMPLETED	
		and			
		Harborview Medical Center 120 Elm Street San Diego, CA 92101			
		and			
John Carman, M.D. 4015 South Cobb Drive Suite 245 Smyrna, GA 30080		Villa View Hospital 5550 University Avenue San Diego, CA 92105	126-602	COMPLETED	
		and			
		Bayview Hospital 330 Mass Street Chula Vista, CA 91911			
		and			
		Ridgeview Institute 3995 South Cobb Drive Smyrna, GA 30080			

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS:

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Herbert Meltzer, M.D. Psychiatric Hospital at Vanderbilt 1801 23rd Avenue South Suite 308 Nashville, TN 37212		Vanderbilt University Medical Center Psychiatric Hospital at Vanderbilt 1801 23rd Avenue South Suite 308 Nashville, TN USA 37212 and The Village at Vanderbilt 1500 21st Avenue South Suite 200 Nashville, TN 37212	126-616	COMPLETED	
Douglas Levinson, M.D. Allegheny University of The Health Sciences MCP-Hahnemann School of Medicine 3200 Henry Avenue Philadelphia, PA 19129		Allegheny University of the Health Sciences MCP-Hahnemann School of Medicine 3200 Henry Avenue Philadelphia, PA USA 19129	126-638	COMPLETED	
Gregory Oxenkrug, M.D. Saint Elizabeths Medical Center Department of Psychiatry 736 Cambridge Street Brighton, MA 02135		Department of Psychiatry Saint Elizabeths Medical Center 736 Cambridge Street Brighton, MA USA 02135	126-659	COMPLETED	
Robert Horns, M.D. 2915 West Charleston Boulevard Suite 4 Las Vegas, NV USA 89102		Lake Mead Hospital 1409 East Lake Mead Boulevard North Las Vegas, NV 89030	126-669	COMPLETED	

3.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS:

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Mary Knesevich, M.D. Southwestern Medical Center 5959 Harry Hines Boulevard Professional Office Building 1 Suite 924 Dallas, TX USA 75235		Saint Paul Medical Center at Southwestern Medical Center 5909 Harry Hines Dallas, TX 75235	126-681	COMPLETED	
Robert Levine, M.D. 1236 Park Avenue New York, NY 10128		1236 Park Avenue New York, NY USA 10128 and Gracie Square Hospital 421 East 75th Street New York, NY 10021	126-696	COMPLETED	
Daniel Van Kammen, M.D. Veterans Affairs Medical Center 7180 Highland Drive Pittsburgh, PA 15206-1297		Veterans Affairs Medical Center 7180 Highland Drive Pittsburgh, PA USA 15206-1297	126-701	COMPLETED	
Richard Jaffe, M.D. Belmont Center for Comprehensive Treatment 4200 Monument Road Philadelphia, PA 19131		Belmont Center for Comprehensive Treatment 4200 Monument Road Philadelphia, PA USA 19131	126-703	COMPLETED	
Marc Hertzman, M.D. Crain Towers 1600 Crain Highway Southwest Suite 410		Crain Towers 1600 Crain Highway Southwest Suite 410 Glen Burnie, MD USA 21061	126-777	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Glen Burnie, MD 21061 and Lawrence Adler, M.D. Taylor Health System 4100 College Avenue Ellicott City, MD 21041-0396		and Taylor Health System 4100 College Avenue Ellicott City, MD USA 21041-0396			
Anne Eden Evans, M.D. Freedom Trail Clinic 25 Staniford Street Boston, MA USA 02114		Erich Lindemann Mental Health Center 25 Staniford Street Boston, MA 02114	126-791	COMPLETED	
Anthony Rothschild, M.D. University of Massachusetts Medical Center Department of Psychiatry-S7 802 55 Lake Avenue North Worcester, MA 01655		University of Massachusetts Medical Center Department of Psychiatry-S7 802 55 Lake Avenue North Worcester, MA USA 01655	126-792	COMPLETED	
Carlos Zarate, Jr., M.D. Franca Cantorino, M.D. McLean Hospital 115 Mill Street Belmont, MA 02178		115 Mill Street Belmont, MA USA 02178	126-793	COMPLETED	
Neal Cutler, M.D. Phillip Tigel, M.D. 8500 Wilshire Boulevard 7th Floor Beverly Hills, CA USA 90211		California Clinical Trials Medical Group 8500 Wilshire Boulevard 7th Floor Beverly Hills, CA 90211	126-794	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
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PROTOCOL 127E

An Open Extension Study Evaluating the Safety and Outcome of 40-200 Mg Daily of Oral Ziprasidone in the Treatment of Subjects Who Have Participated in Previous Ziprasidone Clinical Trials

Thomas Posever, M.D. Bay Cove Mental Health Center Inpatient Wards Lemuel Shattuck Hospital 170 Morton Street Boston, MA 02130		Bay Cove Mental Health Center Lemuel Shattuck Hospital 170 Morton Street Boston, MA USA 02130	127E-509	COMPLETED	
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Michael Kronig, M.D. Hillside Hospital A Division of Long Island Jewish Medical Center 75-59 263rd Street Glen Oaks, NY 11004		Hillside Hospital Lowerstein Research Building A Division of Long Island Jewish Medical Center 266 Street and 76 Avenue Glen Oaks, NY USA 11004	127E-514	COMPLETED	
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Steven Potkin, M.D. University of California Irvine Medical Center 101 The City Drive South Route 88 Orange, CA 92868-3298		University of California Irvine Medical Center 101 The City Drive South Route 88 Orange, CA USA 92868-3298	127E-529	ONGOING	
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8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Steven Targum, M.D. Crozer-Chester Medical Center One Medical Center Boulevard Old Main Upland, PA 19013		Crozer-Chester Medical Center One Medical Center Boulevard Old Main Upland, PA 19013 and Chec House Garden Drive Upland, PA 19013 and Clinical Studies Philadelphia 1015 Chestnut Street Suite 1303 Philadelphia, PA 19107	127E-534	COMPLETED	
Alan Buffenstein, M.D. The Queens Medical Center 1301 Punchbowl Street Honolulu, HI 96813-2499		John Burns School of Medicine Department of Psychiatry 1356 Lusitana Street 4th Floor Honolulu, HI USA 96813	127E-542	COMPLETED	
Sheldon Preskorn, M.D. Psychiatric Research Institute 1100 North St. Francis Suite 200 Wichita, KS 67214		Psychiatric Research Institute 1100 North St. Francis Suite 200 Wichita, KS USA 67214 and Via Christi Regional Medical Center 929 North St. Francis Wichita, KS 67214-3821	127E-557	ONGOING	
Jeffrey Apter, M.D.		Princeton Biomedical Research	127E-578	ONGOING	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Mule Road Professional Building 871 Route 37 West Suite E-8 Toms River, NJ 08755		256 Bunn Drive Suite 6 Princeton, NJ 08540 and 809 River Avenue Axelrad Building Lakewood, NJ 08701 and Princeton House 905 Herrontown Road Princeton, NJ 08540			
Alice Chenault, M.D. 2336 Whitesburg Drive Huntsville, AL 35801		Huntsville Research Associates 2336A Whitesburg Drive Huntsville, AL USA 35801 and Huntsville Hospital 101 Sivley Road Huntsville, AL 35801	127E-578	COMPLETED	

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INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
David Daniel, M.D. Vencor Hospital Arlington 801 South Carlin Springs Road Arlington, VA 22204		Washington Clinical Research Center 8404-P Seven Corners Place Falls Church, VA 22044	127E-581	ONGOING	
		<p style="text-align: center;">and</p> Columbia/Dominion Hospital 2960 Sleepy Hollow Road Falls Church, VA 22044 <p style="text-align: center;">and</p> Columbia/Arlington Hospital 1701 North George Mason Drive Arlington, VA 22205			
Ari Kiev, M.D. Stony Lodge Hospital Croton Dam Road Ossining, NY 10510		Social Psychiatry Research Institute 150 East 89th Street Suite 2H New York, NY USA 10021	127E-585	COMPLETED	

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INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Charles Merideth, M.D. Villaview Community Hospital 5550 University Avenue San Diego, CA 92105		Affiliated Research Institute 8880 Rio San Diego Drive Suite 1090 San Diego, CA 92108 and Villaview Community Hospital 5550 University Avenue San Diego, CA 92105	127E-587	COMPLETED	
Robert Riesenber, M.D. BioBehavioral Associates 625 Dekalb Industrial Way Decatur, GA 30033		Dekalb Medical Center 2701 North Decatur Road Decatur, GA 30033 and BioBehavioral Associates 625 Dekalb Industrial Way Decatur, GA USA 30033	127E-589	ONGOING	
Dan Zimbroff, M.D. 1317 West Foothill Boulevard Suite 140 Upland, CA USA 91786		Behavioral Medicine Center Loma Linda University Medical Center 1710 Barton Road Redlands, CA 92373 and Pacific Clinical Research 1317 West Foothill Boulevard 140 Upland, CA 91786	127E-595	ONGOING	

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INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
David Garver, M.D. Dallas Veteran Administration Medical Center 4500 South Lancaster Road Dallas, TX 75216		4500 South Lancaster Road 116A Dallas, TX USA 75216	127E-599	COMPLETED	
John Carman, M.D. 4015 South Cobb Drive Suite 245 Smyrna, GA 30080		Carmen Research 4015 South Cobb Drive Suite 245 Smyrna, GA USA 30080 and Ridgeview Institute 3995 South Cobb Drive Smyrna, GA 30080	127E-602	ONGOING	
Herbert Meitzer, M.D. Psychiatric Hospital at Vanderbilt 1801 23rd Avenue South Suite 306 Nashville, TN USA 37212		Vanderbilt University Medical Center Psychiatric Hospital at Vanderbilt 1801 23rd Avenue South Suite 306 Nashville, TN 37212 and The Village at Vanderbilt 1500 21st Avenue South Suite 200 Nashville, TN 37212	127E-616	ONGOING	

s.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS:

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Larry Davis, M.D. Davis Clinic PC 902 East Locust Street Olney, IL 62450		Richland Memorial Hospital 800 East Locust Street Olney, IL 62450 and Davis Clinic PC 902 East Locust Street Olney, IL USA 62450	127E-633	ONGOING	
Douglas Levinson, M.D. Allegheny University of the Health Sciences MCP-Hahnemann School of Medicine 3200 Henry Avenue Philadelphia, PA 19129		Allegheny University of the Health Sciences MCP-Hahnemann School of Medicine 3200 Henry Avenue Philadelphia, PA USA 19129	127E-636	COMPLETED	
James Chou, M.D. Nathan S Kline Institute for Psychiatric Research 140 Old Orangeburg Road Building 37 Orangeburg, NY USA 10962		Bellevue Hospital Center 462 First Avenue 21W13 New York, NY 10016 and 20W13A Department of Psychiatry Bellevue Hospital 550 First Avenue New York, NY 10016	127E-653	COMPLETED	

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INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Gregory Oxenkrug, M.D. St. Elizabeth's Medical Center Department of Psychiatry 736 Cambridge Street Brighton, MA 02135		Department of Psychiatry St. Elizabeth's Medical Center 736 Cambridge Street Brighton, MA USA 02135	127E-659	ONGOING	
Jambur Ananth, M.D. Harbor-University of California Los Angeles Medical Center 1000 West Carson Street Building 1-South Box 497 Torrance, CA 90509-2910		Harbor-University of California Los Angeles Medical Center 1000 West Carson Street Building 1-South Box 497 Torrance, CA USA 90509-2910	127E-663	COMPLETED	
Robert Home, M.D. Lake Mead Hospital 2915 West Charleston Boulevard Suite 4 Las Vegas, NV 89102		Lake Mead Hospital 1409 East Lake Mead Boulevard North Las Vegas, NV 89030 and Lake Mead Hospital 2915 West Charleston Boulevard Suite 4 Las Vegas, NV USA 89102	127E-669	ONGOING	
Mary-Ann Knessvich, M.D. St. Paul Medical Center at Southwestern Medical Center 5909 Harry Hines Dallas, TX 75235		Southwestern Medical Center 5959 Harry Hines Professional Office Building 1 Suite 924 Dallas, TX USA 75235	127E-681	ONGOING	

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INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Arthur Freeman, III, M.D. Department of Psychiatry Louisiana State University Medical Center 1501 Kings Highway Shreveport, LA 71130-3932		Department of Psychiatry Room 3-412 Louisiana State University Medical Center 1501 Kings Highway Shreveport, LA USA 71130-3932	127E-686	COMPLETED	
Robert Levine, M.D. 1236 Park Avenue New York, NY 10128		1236 Park Avenue New York, NY USA 10128 and Gracie Square Hospital 421 East 75th Street New York, NY 10021	127E-696	COMPLETED	
Wayne Fenton, M.D. CPC Health/Chestnut Lodge Hospital 500 West Montgomery Avenue Rockville, MD 20850		CPC Health/Chestnut Lodge Hospital 500 West Montgomery Avenue Rockville, MD USA 20850	127E-697	COMPLETED	
Daniel Van Kammen, M.D. Veterans Affairs Medical Center 7180 Highland Drive Pittsburgh, PA 15206-1297		Veterans Affairs Medical Center 7180 Highland Drive Pittsburgh, PA USA 15206-1297	127E-701	COMPLETED	

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INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Richard Jaffe, M.D. Belmont Center for Comprehensive Treatment 4200 Monument Road Philadelphia, PA 19131		Belmont Center for Comprehensive Treatment 4200 Monument Road Philadelphia, PA USA 19131	127E-703	COMPLETED	
James Hartford, M.D. Hartford Research Group 10550 Montgomery Road Suite 20 Cincinnati, OH USA 45242		Hartford Research Group 3120 Burnet Avenue Suite 103 Cincinnati, OH 45229 and The Christ Hospital 2139 Auburn Avenue Cincinnati, OH 45219	127E-705	ONGOING	
Luisito Roxas, M.D. St. Alexius Medical Center 900 East Broadway Box 5510 Bismarck, ND 58501		Archway Mental Health Services 900 East Broadway Box 5510 Bismarck, ND USA 58501	127E-707	COMPLETED	
David Brown, M.D. 4411 Medical Parkway Austin, TX 78756		Community Clinical Research Incorporated 4411 Medical Parkway Austin, TX USA 78756 and Charter Hospital of Austin 8402 Cross Park Drive	127E-719	ONGOING	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
		Austin, TX 78754			
George Grossberg, M.D. Saint Louis University Medical Center 1221 South Grand Boulevard St. Louis, MO 63104		Saint Louis University Health Sciences Center School of Medicine 1221 South Grand Boulevard St. Louis, MO USA 63104	127E-755	COMPLETED	
Scott West, M.D. Psychiatric Institute of Florida 341 North Maitland Avenue Suite 260 Maitland, FL 32751		Psychiatric Institute of Florida 341 North Maitland Avenue Suite 260 Maitland, FL USA 32751	127E-765	ONGOING	
		and			
		University Behavioral Center 2500 Discovery Drive Orlando, FL 32802			
James Miller, Jr., M.D. Clinical Studies Melbourne 1360 Sarno Road Suite B Melbourne, FL 32935		Clinical Studies Melbourne 1360 Sarno Road Suite B Melbourne, FL USA 32935	127E-767	COMPLETED	
		and			
		Circles of Care 400 East Sheridan Road Melbourne, FL 32901			
Richard Steinbook, M.D. Jackson Memorial Medical Center 1611 Northwest 12 th Avenue		Jackson Memorial Medical Center University of Miami School of Medicine Department of Psychiatry	127E-774	COMPLETED	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
MH Institute Room 112B Miami, FL 33136		1611 Northwest 12th Avenue MH Institute Room 112B Miami, FL USA 33136			
Marc Hertzman, M.D. Crain Towers 1600 Crain Highway Southwest Suite 410 Glen Burnie, MD 21061		Crain Towers 1600 Crain Highway Southwest Suite 410 Glen Burnie, MD USA 21061	127E-777	COMPLETED	
and		and			
Lawrence Adler, M.D. Taylor Health System 4100 College Avenue Ellicott City, MD 21041-0396		Taylor Health System 4100 College Avenue Ellicott City, MD USA 21041-0396			

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Ileana Berman, M.D. Taunton State Hospital/ Southeastern Area of Massachusetts 80 Hodges Avenue Taunton, MA 02780		Taunton State Hospital 80 Hodges Avenue Taunton, MA USA 02780	127E-780	ONGOING	
Michael Lessem, M.D. 6750 West Loop South Suite 1050 Bellaire, TX 77401		Claghorn-Lessem Research Clinic Incorporated 6750 West Loop South Suite 1050 Bellaire, TX USA 77401	127E-782	ONGOING	
		and			
		West Oaks Hospital 6500 Hornwood Houston, TX 77074			

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Craig Johnson, M.D. The Promedica Research Center 3758 Lavista Road Suite 100 Tucker, GA 30084		The Promedica Research Center 3758 Lavista Road Suite 100 Tucker, GA USA 30084	127E-785	COMPLETED	
Arifulla Khan, M.D. Hambleton Professional Building 10126 Northeast 132nd Street Suite B Kirkland, WA 98034		Hambleton Professional Building 10126 Northeast 132nd Street Suite B Kirkland, WA USA 98034	127E-786	COMPLETED	
John Zajacka, M.D. Woman's Board Depression Treatment and Research Center Rush-Presbyterian-St. Luke's Medical Center 1725 West Harrison Street Suite 955 Chicago, IL 60612		Woman's Board Depression Treatment and Research Center Rush-Presbyterian-St. Luke's Medical Center 1725 West Harrison Street Suite 955 Chicago, IL USA 60612	127E-789	COMPLETED	
Anthony Rothschild, M.D. University of Massachusetts Medical Center Department of Psychiatry - S7 802 55 Lake Avenue North Worcester, MA 01655		University of Massachusetts Medical Center Department of Psychiatry - S7 802 55 Lake Avenue North Worcester, MA USA 01655	127E-792	ONGOING	

8.c.1. LIST OF INVESTIGATORS U.S. PROTOCOLS:

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Carlos Zarate, Jr., M.D. McLean Hospital 115 Mill Street Belmont, MA 02178		McLean Hospital 115 Mill Street Belmont, MA USA 02178	127E-793	COMPLETED	
Ronald Brenner, M.D. St. Johns Episcopal Hospital South Shore 327 Beach 19th Street Far Rockaway, NY 11691		St. Johns Episcopal Hospital South Shore 327 Beach 19th Street Far Rockaway, NY USA 11691	127E-795	ONGOING	

8.c.1. LIST OF INVESTIGATORS NON-U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
PROTOCOL 306					1.41
A Randomised Open Label Multicentre Study Comparing The Safety and Toleration of Intramuscular Ziprasidone Mesylate (CP-88,059-27) or Intramuscular Haloperidol for up to Three Days Followed by Treatment With Oral Ziprasidone Hydrochloride (CP-88,059-1) or Oral Haloperidol in Patients With Acute Non-Organic Psychosis					
Professor H. J. Moeller		Psychiatrische Klinik und Poliklinik Der Ludwigs-Maximilian universitat Klinikum Innenstadt Nussbaumstrasse 7 80336 Muenchen Germany	306-078	COMPLETED	
Dr. Edoardo Spina		Ospedale Mandarini Viale Giostra 98100 Messina Italy	306-235	COMPLETED	
Dr. J. Morgner		Psychiatrische Klinik Oberloschwitz Städtisches Krankenhaus Dresden- neustadt Alpenstrasse 1 01326 Dresden Germany	*306-262	COMPLETED	
Professor Gabriele Borsetti		Ospedale Umberto I Largo Cappelli 1 60100 Ancona Italy	306-322	COMPLETED	
Professor Avner Etizur		Abarbanel Hospital Shderot Keren Kayemet 15 Bat Yam Israel 59100	306-327	COMPLETED	

8.c.1. LIST OF INVESTIGATORS NON-U.S. PROTOCOLS

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Professor L. Grunhaus		Psychiatry C. Chaim Sheba Medical Center Tel Hashomer Israel	306-328	COMPLETED	
Professor R. H. Belmaker		Beer Sheva Mental Health Center P.O.B. 4600 Beer Sheva Israel	306-329	COMPLETED	
Professor H. Munitz		Gehah Hospital P.O.B. 102 Petach Tikva 49100 Israel	306-330	COMPLETED	
Dr. J. Lucey		Division of Psychiatry Homerton Hospital Homerton Row London E9 6SR United Kingdom	306-331	COMPLETED	
Professor R. W. Kerwin		Institute of Psychiatry De Crespigny Park London SE5 8AF United Kingdom	306-332	COMPLETED	
Dr. G. Lynch		Holywell Hospital 60 Steeple Road County Antrim BT41 2RJ Northern Ireland	306-333	COMPLETED	

8.c.1. LIST OF INVESTIGATORS NON-U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Dr. M. Launer		Lamont Clinic Burnley General Hospital Burnley Lancashire	306-334	COMPLETED	
Dr. Antonio Virzi		Universita Di Catani Via Andrea Doria 6 95100 Cantani Italy	306-339	COMPLETED	
Professor Alberto Giannelli		OSP. Le Niguarda CA Grande-SPDC Grossoni Milano Italy	306-340	COMPLETED	
Professor Carlo Alberto Altamura		Servizi Psichiatrici Ospedaliera Via Liguria 13 09127 Cagliari Italy	306-341	COMPLETED	
Professor S. Fabio		Ospedale Civile Di Sassari ss. Anunziata Via De Nicola 07110 Sassari Italy	306-342	COMPLETED	
Dr. Francesco Toccafondi		Universita Cagliari Dipart Neuroscienze Via Sanna Randaccio 36 09100 Cagliari Italy	306-343	COMPLETED	

8.c.1. LIST OF INVESTIGATORS NON-U.S. PROTOCOLS:

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Dr. Alessandro Castellani		Verona Piazzale Stefani 1 37100 Verona Italy	306-344	COMPLETED	
Dr. F. Canas		Hospital Psiquiatrico de Madrid Servicio de Psiquiatria Ctra. De Colmenar Viejo, km 13,8 28049 Madrid Spain	*306-349	COMPLETED	
Dr. S. Ros		Hospital de Mar Servicio de Psiquiatria Passeig Maritim 25-29 08003 Barcelona Spain	*306-350	COMPLETED	
Dr. M. Gutierrez		Hospital Santiago Apostol Servicio de Psiquiatria Olaguibel 29 01004 Victoria Spain	306-351	COMPLETED	
Dr. J. Vilalta		Hospital Psiquiatric de Salt Servicio de Psiquiatria C/Dr. Castany, s/n 17190 Salt Girona Spain	306-352	COMPLETED	
Dr. M. A. Gonzalez Torres		Hospital de Basurto Servicio de Psiquiatria Avda. De Montevideo 18 48014 Bilbao Spain	*306-353	COMPLETED	

8.c.1. LIST OF INVESTIGATORS NON-U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Dr. M. Gonzalez de Chavez		Hospital Gregorio Maranon Servicio de Psiquiatria C/Dr. Eaquerdo, 46 28007 Madrid Spain	306-354	COMPLETED	
Dr. P. Birkett		Barrow Hospital Bristol United Kingdom	306-367	COMPLETED	
Dr. S. Brook		Department of Psychiatry Sterkfontain Hospital Krugersdorp Johannesburg South Africa	306-374	COMPLETED	
Dr. D. Kibel		Department of Psychiatry Valkenberg Hospital Capetown South Africa	306-375	COMPLETED	
Dr. Antonio Virzi		Universita Di Catani Via Andrea Doria 6 95100 Catania Italy	306-379	COMPLETED	
Dr. G. Minnai		Servizio Psichiatrico Ospedale San Martino Viale Rockefeller 09170 Oristano Italy	306-380	COMPLETED	

8.c.1. LIST OF INVESTIGATORS NON-U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Dr. P. Cotani		Ospedale Umberto I Largo Cappelli, 1 60100 Ancona Italy	*306-381	COMPLETED	
Prof. Giuseppe Biffi		CRT Zogno (Bergamo) Italy	306-382	COMPLETED	
Dr.G. Spilimbergo		Servizio Psichiatrico Ospedale Generale via Brigata Bisagno, 4 Conegliano (Treviso) Italy	306-386	COMPLETED	
Dr. Giulia Penni		Policlinico Padova Italy	306-387	COMPLETED	
Dr. R. de Stefano		Servizio di Psichiatria Azienda per I Servizi Sanitari Isontina N2 via Vittorio Veneto 174 Gorizia Italy	306-388	COMPLETED	
Dr. G. Sanna		I e II Servizio di Psichiatria Ospedale Ismirionis Via Ismirionis Cagliari Italy	306-389	COMPLETED	

0.c.1. LIST OF INVESTIGATORS NON-U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Professor B. Gallhofer		Zentrum fuer Psychiatrie Klinikum der Justus-Liebig Universitaet Am Steg 22 35385 Giessen Germany	306-390	COMPLETED	
Professor R. Olbrich		Zentralinstitut fuer Seelische Gesundheit Abteilung Evaluative Psychiatrie J 5 68159 Mannheim Germany	306-391	COMPLETED	
Dr. A. Rodriguez Martinez		Instituto Municipal de Psiquiatria C/Germans des Valls, s/n 08035 Barcelona Spain	*306-392	COMPLETED	
Dr. Luigi Paval		Policlinico Padova Italy	306-393	COMPLETED	

*Centers that did not recruit subjects.

PROTOCOL 306E

A Twelve Week Open Label Continuation Study of Ziprasidone Hydrochloride (CP-88,029-1) and Haloperidol in the Ongoing Treatment of Patients Who Initially Presented with Acute Non-Organic Psychosis

Professor H. J. Moeller	*	Psychiatrische Klinik und Poliklinik Der Ludwigs-Maximilian universitaet Klinikum Innenstadt Nussbaumstrasse 7 80336 Muenchen	306E-078	COMPLETED	
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9.c.1. LIST OF INVESTIGATORS NON-U.S. PROTOCOLS

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Dr. Edoardo Spina		Germany Ospedale Mandalari Viale Giostra 98100 Messina Italy	306E-235	COMPLETED	
Dr. J. Morgner		Psychiatrische Klinik Oberloschwitz Städtisches Krankenhaus Dresden- neustadt Alpenstrasse 1 01326 Dresden Germany	*306E-262	COMPLETED	
Professor Gabriele Borsatti		Ospedale Umberto I Largo Cappalli 1 60100 Ancona Italy	306E-322	COMPLETED	
Professor Avner Elizur		Abarbanel Hospital Shderot Keren Kayemet 15 Bat Yam Israel 59100	303-327	COMPLETED	
Professor L. Grunhaus		Psychiatry C. Chaim Sheba Medical Center Tel Hashomer Israel	306E-328	COMPLETED	
Professor R. H. Belmaker		Beer Sheva Mental Health Center P.O.B. 4600 Beer Sheva Israel	306E-329	COMPLETED	

8.c.1. LIST OF INVESTIGATORS NON-U.S. PROTOCOLS

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Professor H. Munitz		Gehah Hospital P.O.B. 102 Petach Tikva 49100 Israel	306E-330	COMPLETED	
Dr. J. Lucey		Division of Psychiatry Homerton Hospital Homerton Row London E9 6SR United Kingdom	306E-331	COMPLETED	
Professor R. W. Kerwin		Institute of Psychiatry De Crespigny Park London SE5 8AF United Kingdom	*306E-332	COMPLETED	
Dr. G. Lynch		Holywell Hospital 60 Steeple Road County Antrim BT41 2RJ Northern Ireland	306E-333	COMPLETED	
Dr. M. Launer		Lamont Clinic Burnley General Hospital Burnley Lancashire	306E-334	COMPLETED	
Dr. Antonio Virzi		Universita Di Catani Via Andrea Doria 6 95100 Cantani Italy	306E-339	COMPLETED	
Professor Alberto Giannelli		OSP. Le Niguarda CA Grande-SPDC Grossoni	306E-340	COMPLETED	

8.c.1. LIST OF INVESTIGATORS NON-U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Professor Carlo Alberto Altamura		Milano Italy Servizi Psichiatrici Ospedaliere Via Liguria 13 09127 Cagliari Italy	306E-341	COMPLETED	
Professor S. Fabio		Ospedale Civile Di Sassari ss. Anunziata Via De Nicola 07110 Sassari Italy	306E-342	COMPLETED	
Dr. Francesco Toccafondi		Universita Cagliari Dipart Neuroscienze Via Sanna Randaccio 36 09100 Cagliari Italy	306E-343	COMPLETED	
Dr. Alessandro Castellani		Verona Piazzale Stefani 1 37100 Verona Italy	306E-344	COMPLETED	
Dr. F. Canas		Hospital Psiquiatrico de Madrid Servicio de Psiquiatria Ctra. De Colmenar Viejo, km 13,8 28049 Madrid Spain	*306E-349	COMPLETED	

8.c.1. LIST OF INVESTIGATORS NON-U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Dr. S. Ros		Hospital de Mar Servicio de Psiquiatria Passeig Maritim 25-29 08003 Barcelona Spain	*306E-350	COMPLETED	
Dr. M. Gutierrez		Hospital Santiago Apostol Servicio de Psiquiatria Olaquibel 29 01004 Victoria Spain	306E-351	COMPLETED	
Dr. J. Vilalta		Hospital Psiquiatric de Salt Servicio de Psiquiatria C/Dr. Castany, s/n 17190 Salt Girona Spain	306E-352	COMPLETED	
Dr. M. A. Gonzalez Torres		Hospital de Basurto Servicio de Psiquiatria Avda. De Montevideo 18 58014 Bilbao Spain	*306E-353	COMPLETED	
Dr. M. Gonzalez de Chavez		Hospital Gregorio Maranon Servicio de Psiquiatria C/Dr. Esquerdo, 46 28007 Madrid Spain	306E-354	COMPLETED	
Dr. P. Birkett		Barrow Hospital Bristol United Kingdom	306E-367	COMPLETED	

8.c.1. LIST OF INVESTIGATORS NON-U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Dr. S. Brook		Department of Psychiatry Sterkfontain Hospital Krugersdorp Johannesburg South Africa	306E-374	COMPLETED	
Dr. D. Kibel		Department of Psychiatry Valenberg Hospital Capetown South Africa	306E-375	COMPLETED	
Dr. Antonio Virzi		Universita Di Catani Via Andrea Doria 6 95100 Catania Italy	306E-379	COMPLETED	
Dr. G. Minnai		Servizio Psichiatrico Ospedale San Martino Viale Rockefeller 09170 Oristano Italy	306E-380	COMPLETED	
Dr. P. Cotani		Ospedale Umberto I Largo Cappelli, 1 60100 Ancona Italy	306E-381	COMPLETED	
Prof. Giuseppe Biffi		CRT Zogno (Bergamo) Italy	306E-382	COMPLETED	
Dr.G. Spilimbergo		Servizio Psichiatrico Ospedale Generale via Brigata Bisagno, 4	306E-386	COMPLETED	

8.c.1. LIST OF INVESTIGATORS NON-U.S. PROTOCOLS*

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Dr. Giulia Perini		Conegliano (Treviso) Italy			
		Policlinico Padova Italy	306E-387	COMPLETED	
Dr. R. de Stefano		Servizio di Psichiatria Azienda per i Servizi Sanitari Isontina N2 via Vittorio Veneto 174 Gorizia Italy	306E-388	COMPLETED	
Dr. G. Sanna		I e II Servizio di Psichiatria Ospedale Ismirionis Via Ismirionis Cagliari Italy	306E-389	COMPLETED	
Professor B. Galthofer		Zentrum fuer Psychiatrie Klinikum der Justus-Liebig Universitaet Am Steg 22 35385 Giessen Germany	306E-390	COMPLETED	
Professor R. Oltbrich		Zentralinstitut fuer Seelische Gesundheit Abteilung Evaluative Psychiatrie J 5 68159 Mannheim Germany	306E-391	COMPLETED	
Dr. A. Rodriguez Martinez		Instituto Municipal de Psiquiatria	*306E-392	COMPLETED	

#c.1. LIST OF INVESTIGATORS NON-U.S. PROTOCOLS:

INVESTIGATOR ADDRESS	SUBINVESTIGATORS	STUDY SITES	STUDY NO.	STUDY STATUS	SUMMARY VOLUME
Dr. Luigi Paval		C/Germans des Valls, s/n 08035 Barcelona Spain Policlinico Padova Italy	306E-393	COMPLETED	