

**CENTER FOR DRUG EVALUATION AND
RESEARCH**

APPLICATION NUMBER:

21-337

MICROBIOLOGY REVIEW

Division of Anti-Infective Drug Products
Clinical Microbiological Review

NDA NUMBER:
21337

REVIEW DATE:
6-30-01

SUBMISSION/TYPE:
Original NDA

DOCUMENT DATE
11-30-00

CDER DATE
12-01-00

ASSIGNED DATE
12-07-00

NAME & ADDRESS OF APPLICANT:

Merck & Co. Inc.
P.O. Box 4
Sumneytown Pike, BLA-20
West Point, PA 19486

CONTACT PERSON:

Michelle W. Kloss, Ph.D. Senior Director
Regulatory Affairs
Merck & Co. Inc.
P.O. Box 4
Sumneytown Pike, BLA-20
West Point, PA 19486
Phone: (610) 397-2905

DRUG PRODUCT NAME

Proprietary:
Nonproprietary/USAN:
Code Names/#'s:
Therapeutic Class:

INVANZ™
Ertapenem Sodium
MK-0826, L-749345, MK-826
Antimicrobial

PHARMACOLOGICAL CATEGORY:

1-β-methyl carbapenem

DOSAGE FORM:

Powder for injection

STRENGTHS:

1 g vials

ROUTE OF ADMINISTRATION:

IM injection or Intravenous infusion

DISPENSED:

Rx OTC

RELATED DOCUMENTS (if applicable):

REMARKS/COMMENTS:

This application is for a 1-β-methyl carbapenem, INVANZ™. The application is for the

treatment of patients with complicated intra-abdominal infections, complicated skin and skin structure infections _____ community acquired pneumonia; complicated urinary tract infections including pyelonephritis; Acute pelvic infection including postpartum endomyometritis, septic abortion and post surgical gynecologic infections.

CONCLUSIONS & RECOMMENDATIONS:

The application is approvable from the microbiological viewpoint when changes are made to the MICROBIOLOGY section of the package insert. These changes are found on pages 157-165 of this review. The sponsor should be notified of the needed changes in the product insert.

APPEARS THIS WAY
ON ORIGINAL

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ON ORIGINAL

167 page(s) have been removed because it contains trade secret and/or confidential information that is not disclosable.

**REVIEW TO HFD-520
OFFICE OF NEW DRUG CHEMISTRY
MICROBIOLOGY STAFF/HFD-805
MICROBIOLOGY REVIEW #1 OF NDA**

9 August 2001

- A.
1. NDA: 21-337
 2. TYPE OF SUPPLEMENT: N/A
 3. SUPPLEMENT PROVIDES FOR: N/A
 4. APPLICANT/SPONSOR: Merck & Co.
P.O. Box 4, Sumneytown Pike, BLA-20
West Point, PA 19486
 5. MANUFACTURING SITE: Laboratoire Merck Sharp & Dohme -
Chibret (Mirabel)
-
6. DRUG PRODUCT NAME:
Proprietary: INVANZ™
Nonproprietary: Ertapenem Sodium
Drug Priority Classification: S
 7. DOSAGE FORM, ROUTE OF ADMINISTRATION AND
STRENGTH/POTENCY: Lyophilized Powder for Injection, 1 gm in a
glass vial
 8. METHOD(S) OF STERILIZATION: _____
 9. PHARMACOLOGICAL CATEGORY: Antibiotic
- B.
1. DOCUMENT/LETTER DATE: November 30, 2000
 2. RECEIPT DATE: November 30, 2000
 3. CONSULT DATE: April 4, 2001
 4. DATE OF AMENDMENT: N/A
 5. ASSIGNED FOR REVIEW: April 16, 2001
 6. SUPPORTING/RELATED DOCUMENTS:
- C. REMARKS:

- D. **CONCLUSIONS:** This application is approvable, pending resolution of product quality microbiology deficiencies. Please see "Microbiologist's List of Deficiencies" at the end of this review.

Bryan S. Riley, Ph.D.
Microbiology Reviewer

cc.: Original NDA 21-337
HFD 520/Division File
HFD 520/Project Manager
HFD 520/Chemist
HFD 805/Consult File
HFD 805/ B. Riley

Drafted by: Bryan Riley, Ph.D.
R/D initialed by: Peter Cooney, Ph.D.

**APPEARS THIS WAY
ON ORIGINAL**

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**REVIEW TO HFD-520
OFFICE OF NEW DRUG CHEMISTRY
MICROBIOLOGY STAFF/HFD-805
MICROBIOLOGY REVIEW #2 OF NDA**

28 September 2001

- A.
1. NDA: 21-337BC
 2. TYPE OF SUPPLEMENT: N/A
 3. SUPPLEMENT PROVIDES FOR: N/A
 4. APPLICANT/SPONSOR: Merck & Co.
P.O. Box 4, Sumneytown Pike, BLA-20
West Point, PA 19486
 5. MANUFACTURING SITE: Laboratoire Merck Sharp & Dohme -
Chibret (Mirabel)

 6. DRUG PRODUCT NAME:
Proprietary: INVANZ™
Nonproprietary: Ertapenem Sodium
Drug Priority Classification: S
 7. DOSAGE FORM, ROUTE OF ADMINISTRATION AND
STRENGTH/POTENCY: Lyophilized Powder for Injection, 1 gm in a
glass vial
 8. METHOD(S) OF STERILIZATION: _____
 9. PHARMACOLOGICAL CATEGORY: Antibiotic
- B.
1. DOCUMENT/LETTER DATE: November 30, 2000
 2. RECEIPT DATE: November 30, 2000
 3. CONSULT DATE: April 4, 2001
 4. DATE OF AMENDMENT: July 16, 2001
 5. ASSIGNED FOR REVIEW: August 1, 2001
 6. SUPPORTING/RELATED DOCUMENTS: Original NDA 21-337
- C. REMARKS: This amendment relates to an increase in the cycle times for the VHP sterilization of the filling and lyophilization isolators, and a change in the action levels for microbiological environmental monitoring.

- D. **CONCLUSIONS:** This submission is recommended for approval on the basis of product quality microbiology. There are two comments to which we would like to applicant to respond. Please see "Microbiologist's List of Comments" at the end of this review. The applicant's responses may be submitted post-approval.

Bryan S. Riley, Ph.D.
Microbiology Reviewer

cc.: Original NDA 21-337
HFD 520/Division File
HFD 520/Project Manager
HFD 520/Chemist
HFD 805/Consult File
HFD 805/ B. Riley

Drafted by: Bryan Riley, Ph.D.
R/D initialed by: Peter Cooney, Ph.D.

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**REVIEW TO HFD-520
OFFICE OF NEW DRUG CHEMISTRY
MICROBIOLOGY STAFF/HFD-805
MICROBIOLOGY REVIEW #3 OF NDA**

17 October 2001

- A.
1. NDA: 21-337BI
 2. TYPE OF SUPPLEMENT: N/A
 3. SUPPLEMENT PROVIDES FOR: N/A
 4. APPLICANT/SPONSOR: Merck & Co.
P.O. Box 4, Sumneytown Pike, BLA-20
West Point, PA 19486
 5. MANUFACTURING SITE: Laboratoire Merck Sharp & Dohme –
Chibret (Mirabel)
-

6. DRUG PRODUCT NAME:
Proprietary: INVANZ™
Nonproprietary: Ertapenem Sodium
Drug Priority Classification: S
7. DOSAGE FORM, ROUTE OF ADMINISTRATION AND
STRENGTH/POTENCY: Lyophilized Powder for Injection, 1 gm in a
glass vial
8. METHOD(S) OF STERILIZATION: _____
9. PHARMACOLOGICAL CATEGORY: Antibiotic

- B.
1. DOCUMENT/LETTER DATE: November 30, 2000
 2. RECEIPT DATE: November 30, 2000
 3. CONSULT DATE: April 4, 2001
 4. DATE OF AMENDMENT: September 16, 2001
 5. ASSIGNED FOR REVIEW: October 10, 2001
 6. SUPPORTING/RELATED DOCUMENTS: Original NDA 21-337

- C. REMARKS: This submission contains the applicant's responses to Microbiology deficiencies in their initial submission.

- D. CONCLUSIONS: This submission is recommended for approval on the basis of product quality microbiology.

Bryan S. Riley, Ph.D.
Microbiology Reviewer

cc.: Original NDA 21-337
HFD 520/Division File
HFD 520/Project Manager
HFD 520/Chemist
HFD 805/Consult File
HFD 805/ B. Riley

Drafted by: Bryan Riley, Ph.D.
R/D initialed by: Peter Cooney, Ph.D.

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