CENTER FOR DRUG EVALUATION AND RESEARCH

Application Number 21-120

CHEMISTRY REVIEW(S)

FEB 11 2000

DIVISION OF NEUROPHARMACOLOGICAL DRUG PRODUCTS, HFD-120
REVIEW OF CHEMISTRY, MANUFACTURING, AND CONTROLS

NDA 21-120	**CHEM. REVIEW # 1**	**REVIEW DATE**	10-FEB-00
SUBMISSION TYPE	**DOCUMENT DATE**	**CDER DATE**	**ASSIGNED DATE**
ORIGINAL	02-JUN-99	04-JUN-99	04-JUN-99

NAME AND ADDRESS OF APPLICANT

Immunex Corporation
51 University Street
Seattle, WA 98101

DRUG PRODUCT NAME

Proprietary:	Novantrone®
Nonproprietary/USAN: [1980]	mitoxantrone hydrochloride
Code Name/Number:	CL 232,315
Chem. Type/Ther. Class:	6 P

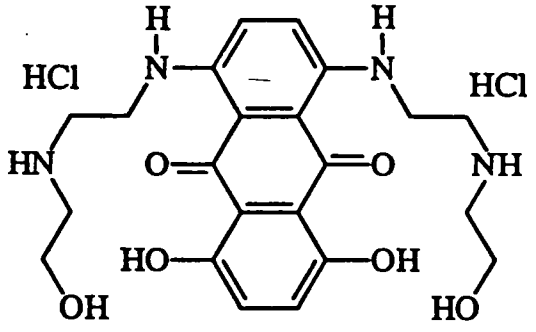
PHARMACOLOGICAL CATEGORY/INDICATION Multiple Sclerosis (MS)
DOSAGE FORM Parenteral solution, concentrate
STRENGTHS 2 mg/ml (free base); 10, 12.5, 15 ml vials (20 mg, 25 mg, 30 mg)
ROUTE OF ADMINISTRATION IV Infusion
DISPENSED XXX RX ___ OTC
SPECIAL PRODUCTS ___ Yes XXX No

CHEMICAL NAME, STRUCTURAL FORMULA, MOLECULAR FORMULA

1,4-dihydroxy-5,8-bis[[2-[(2-hydroxyethyl)amino]ethyl]amino]anthraquinone dihydrochloride

$C_{22}H_{28}N_4O_6 \cdot 2HCl$
CAS [70476-82-3]

FW 517.41 [444.49 + 2(36.46)]



SUPPORTING DOCUMENTS: NDA 19-297 (leukemia), ———
DMF —— (type 2, DS synthesis)

RELATED DOCUMENTS: IND —— (precursor to NDA 19-297)
CONSULTS: No consults requested by CMC.
REMARKS/COMMENTS: Novantrone is currently approved by NDA 19-297 (HFD-150) for the treatment of leukemia and prostate cancer. All CMC provisions for the drug product of the oncology NDA remain the same for this application, therefore approval is indicated for the CMC provisions of this application. The Division of Oncology will review future supplemental CMC applications for Novantrone. By agreement at the pre-NDA meeting, a copy of the cover letter for each submission should be sent to the Division of Neuropharmacological Drug Products (cf. mtg. minutes ——— April 12, 1999).

CONCLUSIONS & RECOMMENDATIONS: Recommend APPROVAL of NDA 21-120. The same product has been approved under NDA 19-297 (HFD-150).

/S/

T. Broadbent, Ph.D., Chemist

Orig. NDA 21-120
HFD-120/Division File
HFD-120/TBroadbent
HFD-120/TWheelous
HFD-120/MGuzewska
R/D Init by: MEG 1/S/

Filename: N21120.000.doc

DIVISION OF NEUROPHARMACOLOGICAL DRUG PRODUCTS, HFD-120
REVIEW OF CHEMISTRY, MANUFACTURING, AND CONTROLS

SEP 2 8 2000

NDA 21-120

CHEM. REVIEW # 2 **REVIEW DATE** 07-SEP-00

SUBMISSION TYPE	DOCUMENT DATE	CDER DATE	ASSIGNED DATE
ORIGINAL	02-JUN-99	04-JUN-99	04-JUN-99
Amendment	21-AUG-00	22-AUG-00	
Amendment	05-SEP-00	06-SEP-00	

NAME AND ADDRESS OF APPLICANT
Immunex Corporation
51 University Street
Seattle, WA 98101

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Nonproprietary/USAN: [1980] mitoxantrone hydrochloride
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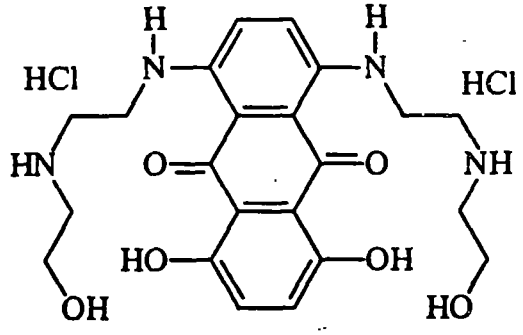

$C_{22}H_{28}N_4O_6 \cdot 2HCl$
CAS [70476-82-3]

FW 517.41 [444.49 + 2(36.46)]

SUPPORTING DOCUMENTS: NDA 19-297 (leukemia), ———— ———— type 2, DS synthesis)

RELATED DOCUMENTS: ———— precursor to NDA 19-297)
CONSULTS: No consults requested by CMC.
REMARKS/COMMENTS: These amendments provide product labeling for the packaging materials and the packaging insert. The product has already been approved under NDA 19-297, therefore other CMC provisions are deemed acceptable. By prior agreement between this division and the sponsor, supplements to this NDA will be reviewed by HFD-110 (DODP). Cover letters to the CMC supplements will be provided to the HFD-120 neurology CMC team for the purpose of information.

CONCLUSIONS & RECOMMENDATIONS: Recommend APPROVAL of NDA 21-120. The labeling provisions are adequate.

/S/

T. Broadbent, Ph.D., Chemist

c: Orig. NDA 21-120
HFD-120/Division File
HFD-120/TBroadbent
HF-120/TWheelous
HFD-120/MGuzewska
R/D Init by: MEG

/S/

Filename: N21120.000a.doc

THIS SECTION WAS DETERMINED **NOT** TO BE RELEASABLE

8 pages

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