CENTER FOR DRUG EVALUATION AND RESEARCH

APPLICATION NUMBER:

21-273

PHARMACOLOGY REVIEW

PHARMACOLOGY/TOXICOLOGY LABELING REVIEW

NDA number:	21-273
Drug:	Follistim-AQ (follitropin beta in solution)
Sponsor:	Organon, Inc.
Reviewer name:	Lynnda Reid, Ph.D., Supervisory Pharmacologist
Division name:	Reproductive and Urologic Drug Products HFD-580
Memo date:	July 25, 2005
Drug Class:	gonadotropin
Indication:	development of multiple follicles in patients participating in assisted reproductive technology (ART) and induction of ovulation.
Clinical formulation:	follitropin beta 75, 150, [redacted] IU, sucrose, sodium citrate, polysorbate 20, L-methionine.
Route of administration:	subcutaneous injection
Introduction:	Follistim-AQ (follitropin beta injection) is a solution, whereas the approved Follistim (follitropin beta for injection) is a [redacted] which is reconstituted in water for injection. The compositions differ only slightly with no toxicological significance. No new pharm/tox data was submitted.
Safety Evaluation:	No safety issues
Labeling Review (NDA):	In regards the PT portions of the label, labeling is identical to the approved labeling for Follistim (NDA 20-582) and Follistim AQ (NDA 21-211), and as such is acceptable.

Carcinogenesis and Mutagenesis, Impairment of Fertility
Long-term toxicity studies in animals have not been performed with Follistim® to evaluate the carcinogenic potential of the drug. Follistim® was not mutagenic in the Ames test using S. typhimurium and E. coli tester strains and did not produce chromosomal aberrations in an in vitro assay using human lymphocytes.
Pregnancy
Pregnancy Category X: (See CONTRAINDICATIONS).
Nursing Mothers
It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk and because of the potential for serious adverse reactions in the nursing infant from Follistim® AQ, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

RECOMMENDATIONS: I concur with the originally recommendation for approval by the original PT reviewer, Dr. Alex Jordan, for NDA 21-273.

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/s/

Lynnda Reid
7/25/05 04:53:19 PM
PHARMACOLOGIST

PHARMACOLOGY/TOXICOLOGY LABELING MEMO

NDA number:	21-273
Drug:	Follistim-AQ (follitropin beta in solution)
Sponsor:	Organon, Inc.
Reviewer name:	Lynnda Reid, Ph.D., Pharmacology/Toxicology Supervisor
Division name:	Reproductive and Urologic Drug Products HFD-580
Memo date:	May 5, 2005
Drug Class:	gonadotropin
Indication:	development of multiple follicles in patients participating in assisted reproductive technology (ART) and induction of ovulation.
Clinical formulation:	follitropin beta 75, 150, [redacted] IU, sucrose, sodium citrate, polysorbate 20, L-methionine.
Route of administration:	subcutaneous injection
Introduction:	Follistim-AQ (follitropin beta injection) concerns a solution in a vial, whereas the approved Follistim (follitropin beta for injection) is a [redacted] for reconstitution in water for injection. The compositions differ only slightly with no toxicological significance. No new pharm/tox data was submitted.
Safety Evaluation:	No safety issues
Labeling Review (NDA):	In regards the PT portions of the label, labeling is identical to approved labeling for Follistim (NDA 20-582) and Follistim AQ (NDA 21-211) and as such, is acceptable.
RECOMMENDATIONS:	I concur with the originally recommendation for approval by the original PT reviewer, Dr. Alex Jordan, for NDA 21-273.

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/s/

Lynnda Reid
5/9/05 11:13:37 AM
PHARMACOLOGIST

REVIEW AND EVALUATION OF PHARMACOLOGY/TOXICOLOGY DATA:

KEY WORDS: Follistim
Reviewer Name: Alex Jordan
Division Name: Reproductive and Urologic Drug Products
HFD# 580
Review Completion Date: 2/15/01

Review number: 1
IND/NDA number: 21-273
Serial number/date/type of submission:
Information to sponsor: Yes ( ) No (x)
Sponsor (or agent): Organon, Inc
Manufacturer for drug substance:

Drug:

Code Name:
Generic Name: follitropin beta
Trade Name: Follistim-AQ
Chemical Name:
CAS Registry Number:
Molecular Formula/ Molecular Weight:
Structure:

Relevant INDs/NDAs/DMFs: NDA 20-582; 21-211
Drug Class: gonadotropin
Indication: development of multiple follicles in patients participating in assisted reproductive technology (ART) and induction of ovulation.
Clinical formulation: follitropin beta 75, 150, [redacted] IU, sucrose, sodium citrate, polysorbate 20, L-methionine.
Route of administration: subcutaneous injection

OVERALL SUMMARY AND EVALUATION:

Introduction: Follistim-AQ (follitropin beta injection) concerns a solution in a vial, whereas the approved Follistem (follitropin beta for injection) is a [redacted] for reconstitution in water for injection. The compositions differ only slightly with no toxicological significance. There are no pharm/tox data.

Safety Evaluation: No safety issues

Labeling Review (NDA): Label is identical to NDA 21-273 and is acceptable.

RECOMMENDATIONS: Approval of NDA 21-273

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/s/

Alexander W. Jordan
5/14/01 01:58:41 PM
PHARMACOLOGIST

Alexander W. Jordan
5/14/01 02:00:40 PM
PHARMACOLOGIST