CENTER FOR DRUG EVALUATION AND RESEARCH

APPLICATION NUMBER:

22-362

SUMMARY REVIEW

Summary Review for Regulatory Action

Date	June 25, 2009
From	Eric Colman, MD
Subject	Deputy Division Director Summary Review
NDA#	22-362
Applicant Name	Daiichi Sankyo Pharma
Date of Submission	August 15, 2008
PDUFA Goal Date	June 15, 2009
Proprietary Name / Established (USAN) Name	Welchol for Oral Solution/Colesevelam
Dosage Forms / Strength	3.75 gram packet once daily or 1.875 gram twice daily
Proposed Indication(s)	Primary Hyperlipidemia and Type 2 Diabetes Mellitus
Recommended Action for NME:	Approve

Material Reviewed/Consulted OND Action Package, including:	
Medical Officer Review	Eileen Craig, MD
Statistical Review	Not Applicable
Pharmacology Toxicology Review	Not Applicable
CMC Review/OBP Review	Elsbeth Chikhale, PhD
Microbiology Review	Not Applicable
Clinical Pharmacology Review	Jaya Vaidyanathan, PhD
DDMAC	Not Applicable
DSI	Not Applicable
CDTL Review	Not Applicable
OSE/DMEPA	Deveonne Hamilton-Stokes, RN
OSE/DDRE	Not Applicable
OSE/DSRCS	Not Applicable
Thorough QT Consult	Not Applicable

OND=Office of New Drugs
DDMAC=Division of Drug Marketing, Advertising and Communication
OSE= Office of Surveillance and Epidemiology
DMEPA=Division of Medication Error Prevention and Analysis
DSI=Division of Scientific Investigations
DDRE= Division of Drug Risk Evaluation
DSRCS=Division of Surveillance, Research, and Communication Support
CDTL=Cross-Discipline Team Leader

Signatory Authority Review Template

1. Introduction

This memorandum summarizes the relevant data and information related to the evaluation of Welchol for Oral Solution (pre-administered powder), an alternative dosage form of colesevelam tablet and capsule formulations, approved under NDAs 21-176 and 21-141, respectively.

2. Background

Colesevelam tablets and capsules are non-absorbed, bile-acid resins approved for the treatment of primary hyperlipidemia and type 2 diabetes mellitus. Data from an in-vitro bioequivalence study form the basis of approval for Welchol for Oral Solution. No clinical efficacy or safety studies were deemed necessary for submission or approval of this NDA.

3. CMC

I concur with the conclusions reached by the chemistry reviewer regarding the acceptability of the manufacturing of the drug product and drug substance.

4. Nonclinical Pharmacology/Toxicology

Because Welchol for Oral Solution is an alternative dosage form of currently approved Welchol capsules and tablets, nonclinical pharmacology and toxicology data were not considered necessary for this NDA. Reference is made to the nonclinical pharmacology and toxicology assessments for Welchol tablets and capsules.

5. Clinical Pharmacology

Following review of the pivotal in-vitro data, Dr. Vaidyanathan concluded that Welchol for Oral Solution has similar bile-acid binding characteristics compared with Welchol tablets. Specifically, the ratios of the average percent of each bile acid (glycocholic acid, glycochenodeoxycholic acid, and taurodeoxycholic acid) bound to Welchol for Oral Solution and Welchol tables were 0.97, 0.96, and 0.98, respectively.

6. Clinical Microbiology

Not applicable.

7. Clinical/Statistical-Efficacy

Clinical efficacy data were not considered necessary for this NDA. Reference is made to the clinical efficacy assessment for Welchol tablets and capsules.

8. Safety

Clinical safety data were not considered necessary for this NDA. Reference is made to the clinical safety assessments for Welchol tablets and capsules.

9. Advisory Committee Meeting

An advisory committee meeting was not considered necessary for this NDA.

10. Pediatrics

The sponsor received a Written Request to conduct a clinical study of Welchol tablets in patients aged 10 – 17 years with heterozygous familial hypercholesterolemia (HeFH). This study was completed and the sponsor received pediatric exclusivity. The Welchol labeling has been updated to reflect the results from this pediatric study. Pediatric studies for the hyperlipidemia indication with the Welchol for Oral Solution formulation have been waived.

Regarding the indication for the treatment of type 2 diabetes mellitus, studies in children aged 0 – 9 years were waived. The sponsor is required to conduct a study in pediatric patients with type 2 diabetes and aged 10 – 17 years. Welchol for Oral Solution will be used in this study. The final study report is to be submitted no later than November 2015.

11. Other Relevant Regulatory Issues

None

12. Labeling

There are no outstanding labeling issues.

13. Decision

Approve

Application Type/Number	Submission Type/Number	Submitter Name	Product Name
NDA-22362	ORIG-1	DAIICHI SANKYO INC	WELCHOL POWDER FOR ORAL SUSPENSION

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

/s/

ERIC C COLMAN
01/27/2010