

Draft Guidance on Desvenlafaxine Succinate

This draft guidance, when finalized, will represent the current thinking of the Food and Drug Administration (FDA, or the Agency) on this topic. It does not establish any rights for any person and is not binding on FDA or the public. You can use an alternative approach if it satisfies the requirements of the applicable statutes and regulations. To discuss an alternative approach, contact the Office of Generic Drugs.

Active Ingredient: Desvenlafaxine succinate

Dosage Form; Route: Extended-release tablet; oral

Recommended Studies: Three studies

1. Type of study: Fasting
Design: Single-dose, two-way crossover in vivo
Strength: 100 mg
Subjects: Healthy males and nonpregnant females, general population
Additional comments: None

2. Type of study: Fed
Design: Single-dose, two-way crossover in vivo
Strength: 100 mg
Subjects: Healthy males and nonpregnant females, general population
Additional comments: The test and reference products should be administered 30 minutes after start of the meal

3. Type of study: Fasting
Design: Single-dose, two-way crossover in vivo
Strength: 50 mg
Subjects: Healthy males and nonpregnant females, general population
Additional comments: None

Analytes to measure (in appropriate biological fluid): Desvenlafaxine in plasma

Bioequivalence based on (90% CI): Desvenlafaxine

Bioequivalence of other strengths: 25 mg ER tablet strength based on (i) acceptable bioequivalence (BE) studies on the 50 mg and 100 mg strengths, (ii) acceptable in vitro dissolution testing of all strengths, and (iii) proportional similarity of the formulations across all strengths. If a generic firm develops only the 50 mg strength product, it will have to conduct both the fasted and fed BE trials using a 50 mg strength formulation.

Dissolution test method and sampling times:

1. The dissolution information for this drug product can be found on the FDA-Recommended Dissolution Methods Web site, available to the public at the following location: <http://www.accessdata.fda.gov/scripts/cder/dissolution/>. Conduct comparative dissolution testing on 12 dosage units each of all strengths of the test and reference products. Specifications will be determined upon review of the abbreviated new drug application (ANDA).
2. In addition to the method above, for modified-release products, dissolution profiles on 12 dosage units each of the test and reference products generated using U.S. Pharmacopeia (USP) Apparatus I at 100 rpm and/or Apparatus II at 50 rpm in at least three dissolution media (pH: 1.2, 4.5, and 6.8 buffer) should be submitted in the application. Agitation speeds may have to be increased, if appropriate. It is acceptable to add a small amount of surfactant, if necessary. Include early sampling times of 1, 2, and 4 hours and continue every 2 hours until at least 80% of the drug is released, to provide assurance against premature release of drug (dose dumping) from the formulation. Specifications will be determined upon review of the data submitted in the application.
3. Due to a concern of dose dumping of drug from this drug product when taken with alcohol, the Agency currently requests that additional in vitro dissolution testing be conducted using various concentrations of ethanol in the dissolution medium, as follows:

Testing conditions: 900 mL, 0.1 N HCl, USP apparatus I (basket) at 100 rpm, with and without alcohol

Test 1: 12 units tested according to the proposed method (with 0.1N HCl), with data collected every 15 minutes for a total of 2 hours

Test 2: 12 units analyzed by substituting 5% (v/v) of test medium with Alcohol USP and data collection every 15 minutes for a total of 2 hours

Test 3: 12 units analyzed by substituting 20% (v/v) of test medium with Alcohol USP and data collection every 15 minutes for a total of 2 hours

Test 4: 12 units analyzed by substituting 40% (v/v) of test medium with Alcohol USP and data collection every 15 minutes for a total of 2 hours

All strengths of the test and the corresponding reference products must be tested accordingly, and data must be provided on individual unit, means, range, and %CV, including f2 similarity values and dissolution plots.