

Draft Guidance on Nifedipine

This draft guidance, once finalized, will represent the Food and Drug Administration's (FDA's) current thinking on this topic. It does not create or confer any rights for or on any person and does not operate to bind FDA or the public. You can use an alternative approach if the approach satisfies the requirements of the applicable statutes and regulations. If you want to discuss an alternative approach, contact the Office of Generic Drugs.

Active ingredient: Nifedipine

Form/Route: Extended Release Tablet/Oral

Recommended studies: 3 studies

1. Type of study: Fasting
Design: Single-dose, two-way crossover in-vivo
Strength: 90 mg
Subjects: Healthy males and nonpregnant females, general population.
Additional Comments: Please refer to the Progesterone Capsule Draft Guidance for additional information regarding highly variably drugs.

2. Type of study: Fed
Design: Single-dose, two-way crossover in-vivo
Strength: 90 mg
Subjects: Healthy males and nonpregnant females, general population.
Additional Comments: Please refer to the Amantadine Hydrochloride Tablet Draft Guidance for additional information regarding fed studies.

3. Type of study: Fasting
Design: Single-dose, two-way crossover in-vivo
Strength: 60 mg
Subjects: Healthy males and nonpregnant females, general population.
Additional Comments: Please see comments above.

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

Bioequivalence based on (90% CI): Nifedipine

Waiver request of in-vivo testing: 30 mg based on (1) an acceptable bioequivalence study on the 60 mg strength, (2) acceptable dissolution testing across the 30 mg and 60 mg strengths, and (3) proportional similarity in the formulations across the 30 mg and 60 mg strengths. Please refer to the Mirtazapine Tablet Draft Guidance for additional information regarding waivers of in-vivo testing.

Dissolution test method and sampling times:

Please note that a **Dissolution Methods Database** is available to the public at the OGD website at <http://www.accessdata.fda.gov/scripts/cder/dissolution/>. Please find the dissolution information for this product at this website. Please conduct comparative dissolution testing on 12 dosage units each of all strengths of the test and reference products.

In addition to the method above, for modified release products, dissolution profiles on 12 dosage units each of test and reference products generated using 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. Please 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.