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Draft – Not for Implementation

Draft Guidance on Travoprost

November 2025

This draft guidance, when finalized, will represent the current thinking of the Food and Drug Administration (FDA, or the Agency) on this topic.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.

In general, FDA's guidance documents do not establish legally enforceable responsibilities. Instead, guidances describe the Agency's current thinking on a topic and should be viewed only as recommendations, unless specific regulatory or statutory requirements are cited. The use of the word *should* in Agency guidances means that something is suggested or recommended, but not required.

Active Ingredient: Travoprost

Dosage Form: Implant

Route: Intracameral

Strength: 75 mcg

Recommended Studies: One in vitro bioequivalence study with characterization studies

To qualify for the study recommendations outlined in this guidance, a generic travoprost intracameral implant should be qualitatively (Q1)[1] and quantitatively (Q2)[2] the same as the reference listed drug (RLD) in terms of the drug constituent,[3] and the non-biodegradable implant device constituent should be manufactured using materials that have no major differences compared to those in the RLD.

One in vitro bioequivalence study:

1. Type of study: Comparative in vitro drug release testing (IVRT) of travoprost
   Design: Real-time IVRT should be performed on three batches of both test product and reference standard (RS) using at least 12 units from each batch. The study should be conducted for a minimum of a six-month period.
   Strength: 75 mcg/implant

[1] Q1 (Qualitative sameness) means that the test product uses the same inactive ingredient(s) as the RLD.
[2] Q2 (Quantitative sameness) means that concentrations of the inactive ingredient(s) used in the test product are within ± 5% of those used in the RLD.
[3] Refer to 21 CFR 314.94(a)(9)(iii).

Additional comments: It is recommended that aqueous media be used to develop the real-time IVRT. The IVRT method must be developed and validated to demonstrate both reproducibility and the ability to distinguish potential differences in formulation or manufacturing parameters. In the abbreviated new drug application (ANDA) submission's development and validation report for IVRT, applicants should include data confirming the method's discriminating power (e.g., detecting variations in the physicochemical characteristics of release-controlling membrane). It is the applicant's responsibility to identify possible sources of drug release variability and develop a method that can discriminate against those. A release study shorter than six months may be acceptable if an accelerated drug release method, which is able to reflect the real-time release behavior, is developed and appropriately validated.[4]

Parameters to measure: Travoprost release over time

Bioequivalence based on: Comparative analysis of release profiles, established using an appropriate statistical method.

Comparative characterization studies:
The comparative physicochemical characterization of the test product and the RS should be performed on at least three batches each of the test product[5] and RS, and it should include:

- Physical dimensions of all individual constituents, including crimp cap, release-controlling membrane, reservoir, and anchor mechanism.
- Quantity of travoprost distributed in the release-controlling membrane in the finished product.
- Release-controlling membrane characterization, including:
    a. Composition and identity, including percentage of vinyl acetate and molecular weight.
    b. Physical structure and morphology, including crystallinity, average thickness, and thickness uniformity.
    c. Thermal properties, including melting temperature.

Waiver request of in vivo testing: Not applicable

Dissolution test method and sampling times: Conduct comparative release testing on 12 dosage units each of all strengths of the test product and RS. Specifications will be determined upon review of the ANDA.

[4] If an accelerated in vitro drug release method is intended to be used, it is recommended that applicants submit information regarding the proposed method for the Agency's consideration through a controlled correspondence or as part of a pre-ANDA meeting request.
[5] The manufacturing process for the exhibit batches should be reflective of the manufacturing process to be utilized for commercial batches.

Additional comments:

Device:
The RLD is presented as an implant in a preloaded, sterile, single-dose inserter. The device constituent parts are the inserter and the drug reservoir with anchor. FDA recommends that prospective applicants examine the size and shape, the external critical design attributes, and the external operating principles of the RLD device when designing the test devices including:

- Preloaded, sterile, single-dose inserter
- Single dose, single use
- Drug reservoir
- Anchoring system

User interface assessment:
An ANDA for this product should include complete comparative analyses so FDA can determine whether any differences in design for the user interface of the proposed generic product, as compared to the RLD, are acceptable and whether the product can be expected to have the same clinical effect and safety profile as the RLD when administered to patients under the conditions specified in the labeling. For additional information, refer to the most recent version of the FDA guidance for industry on *Comparative Analyses and Related Comparative Use Human Factors Studies for a Drug-Device Combination Product Submitted in an ANDA*.[a]

Quality assessment:
For quality-related recommendations for supporting drug product development, refer to the most recent version of the FDA guidance for industry on *Quality Considerations for Topical Ophthalmic Drug Products*.[a]

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[a] For the most recent version of a guidance, check the FDA guidance website at https://www.fda.gov/regulatory-information/search-fda-guidance-documents.