

At Dow Pharmaceutical Sciences Inc., We Focus Only On Topical Products.



In Vitro Penetration Experts

- Compound Feasibility Assessment
- Formulation Characterization
- Compound Penetration Enhancement or Retention in Skin
- Drug Release/SUPAC
- Claim Substantiation
- Risk Assessment



Dow Pharmaceutical Sciences, Inc.

The D in Topicals R&D

Since 1977

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In Vitro Penetration Studies





Dow *in vitro* models provide the most reliable and reproducible skin penetration data available.

Why *In Vitro* Skin Penetration Testing Is Critical For Topical Formulations

To prevent false negatives in early studies, your API must release from the formulation and penetrate the skin as required. Your early formulation should be close to final, because changes made later may require redoing the non-clinical safety studies. We screen multiple prototype formulations with our unique *in vitro* models. Results are used to modify key excipients concentrations, and to help select the best dosage form to optimally deliver your drug.

Why Choose Dow For Your *In Vitro* Studies

Skin source/preparation and experience are critical success factors that set Dow apart from other laboratories. For each study we use human skin from a single donor following elective abdominal surgery. We prepare skin meticulously to preserve uniformity and barrier function. This leads to reproducible study data and reduced standard deviation - and results far superior to those from cadaver skin studies. Dow scientists have 25+ years of experience interpreting *in vitro* data, so we understand what the data means and how it can be used to improve your formulation.

In Vitro Models for Ophthalmic, Vaginal, and Buccal formulations

Our proprietary ophthalmic model uses newborn bovine corneal/scleral tissue. Sheep tissue is used for vaginal and porcine tissue for buccal formulations. Depending on your protocol, our Franz static or Bronaugh flow-through system is used. We can test up to 6 prototype formulations with our 36-cell Franz system, and up to 10 prototypes with our 54-cell Bronaugh system. We target 80-120% recovery of test material and usually achieve 90-110%.

