

# Skin Permeation Testing

Dermal absorption is a primary consideration in determining the safety and/or efficacy of a dermatological product. As animal skin models do not accurately mimic that of human skin, the “gold standard” barrier for skin permeation testing consists of using excised human skin.

## Significance of Skin Permeation Testing

Skin permeation testing provides researchers with valuable information on the physiochemical properties of the active pharmaceutical ingredient and its ability to reach the targeted skin layer and systemic circulation. Different properties in the active ingredients can affect:

- The efficacy of the product
- The local and systemic risks, and therefore, the safety of the product

## Benefits of Our Services:



**Accurate** and **reliable** data  
for informed decision-making



**Fast turnaround times** to keep  
your drug development on track



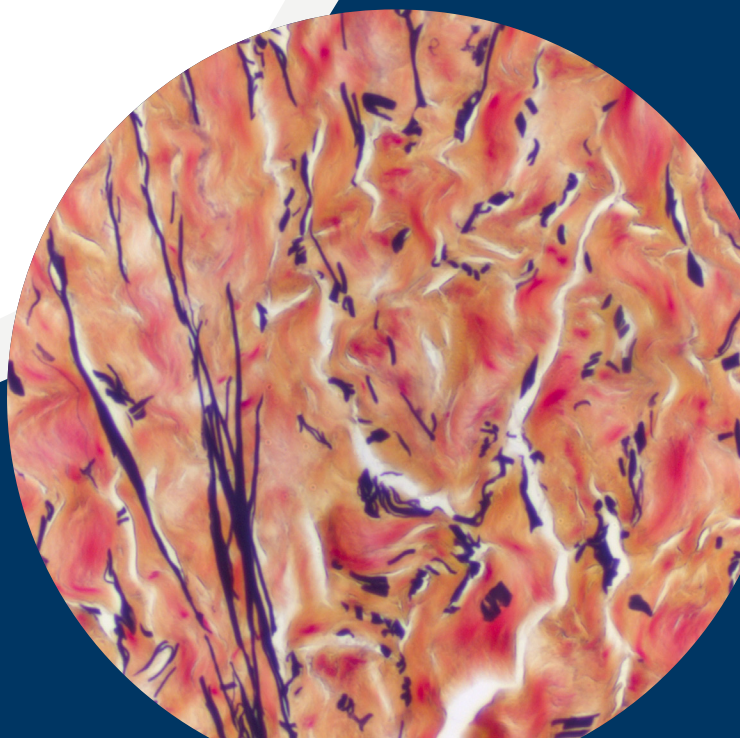
**Unsurpassed expertise** and  
quality control from the  
donor gift to assay testing



**Collaborative** approach to  
ensure the study addresses  
your research questions

## Additional LifeNet Health LifeSciences Services | [Click to learn more:](#)

- *In vitro* assay services
- DMPK/ADMET assays
- OECD safety studies
- Cytotoxicity assays



## Standard Protocol for *In Vitro* Skin Permeation Testing (OECD 428)

ASSAY PARAMETER	PROTOCOL
Diffusion cell	Franz cells (9mm Ø)
Test apparatus	Heated water circulator and individualized magnetic stir bar control
Skin	Excised human skin, cryopreserved (LifeNet Health)
Replicates	4
Test article formulation	Liquid (infinite or finite dose) / solid (finite dose)
Receptor fluid	1X PBS (adaptable)
Standard sample times	0, 0.5, 1, 2, 4, 6, and 24 hours
Skin integrity validation	Transepidermal water loss (TEWL)
Bioanalytical	LC/MS/MS
Reference compound	Caffeine
Time to complete	3-4 weeks
Regulatory	Non-GLP or GLP
Deliverables	Full report, cumulative amount (infinite and finite dose), steady-state flux (infinite dose), instantaneous flux (finite doses), maximum flux (finite dose), and time to maximum flux (finite dose)

### How can we help?

Talk with one of our experts for help with general inquiries, protocol details, or becoming a new client.

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