PermeaPad® Skin Barrier

Measure the passive mass transfer/permeability of drugs through a biomimetic barrier

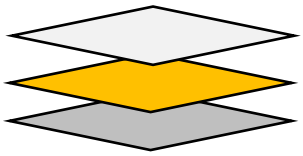
This developed biomimetic barrier enables an innovative approach for *in vitro* permeability assays*. The investigation with the barrier is easy, fast and reproducible to perform. The simulation of the passive mass transport can be performed by applying the PermeaPad® Skin Barrier in a conventional Franz-Cell, side-by-side diffusion cell or other set-up. Thereby it is possible to measure the permeability of a drug.

Due to its unique and innovative composition the barrier is robust and resistant. The specific experimental conditions can be selected according to the substance studied.

* For research use only.
Not for use in diagnostic procedures.

Technical Data

General technical data PermeaPad® Skin Barrier [1] (Batch 1.2)

Membrane components	Cellulose membrane + skin mimicking lipid mixture + cellulose filter (white)
Direction	White filter has to face to the donor  Filter support (facing donor) Skin mimicking lipid mixture Low-retention layer (facing acceptor)
MWCO	8-10 kDa
Disk Diameter	1. 25,0 + 0,2 mm
Storage	Do not expose the product to sun and UV radiation and store at 25 °C.
Operation temperature	e.g. 25 °C; 37 °C
Drug concentration	e.g. 5 mM
Sampling intervals	Freely selectable
Test duration	Up to 24 h
Analysis method	e.g. HPLC, LC-MS/MS, etc.
Data	Permeation, Flux, apparent permeation coefficient P_{app} *drug recovery*
Tested drug substances	Caffeine (gel)[1], Diclofenac (gel)[1], Ibuprofen (gel)
Warranty	Expiry date on label

With the innovative PermeaPad® Skin Barrier it is possible to determine/generate fast, easy and reproducible data about the permeability of drugs by the passive mass transport.

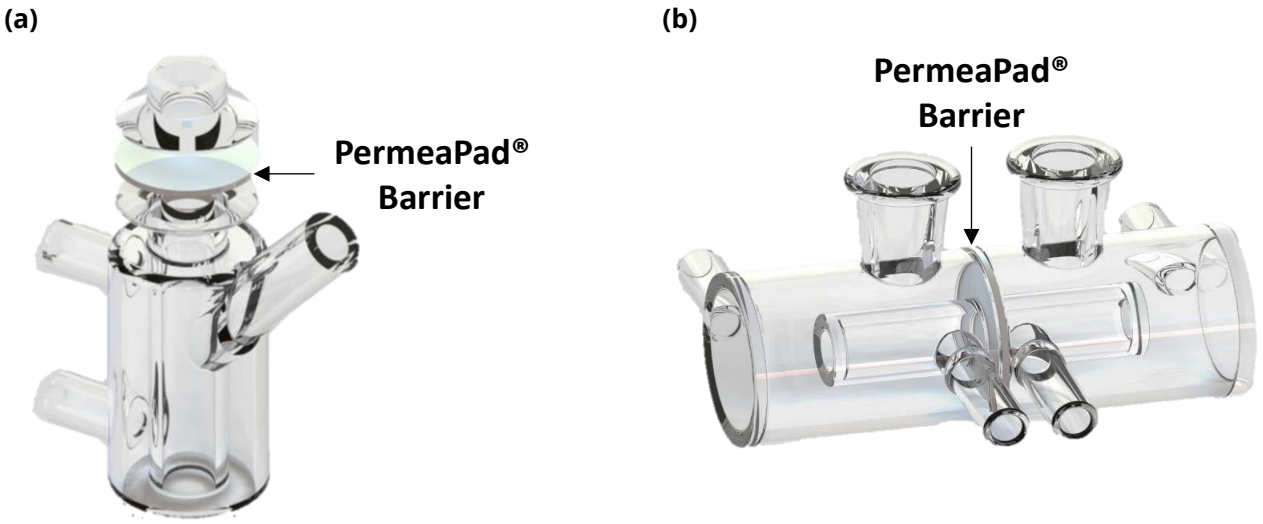


Figure 1: Figure of (a) Franz diffusion cell and (b) side-by-side diffusion cell and PermeaPad® Barrier.

Version 1: Changes, including technical, reserved. 01.09.2025

References:
[1] Comparative permeation study of caffeine and diclofenac gel formulations using artificial, human, and porcine skin barriers; University of Trieste; Department of Chemical and Pharmaceutical Sciences: https://phabioc.com/wp-content/uploads/2025/09/Report-CaffeineDiclofenac-Gel_Skin_PHABIOC.pdf (Batch 1.2 is the serial product).