

PermeaPad®
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® 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 very robust, resistant and has a long shelf-life. As a consequence of these properties measurements are possible within a large pH range. The specific experimental conditions can be selected according to the substance studied.

Technical Data

General technical data 1, 2

Membrane components	Cellulose membrane + Lecithine (S-100)
Disk Diameter	1. 25,0 + 0,2 mm 2. 35,0 + 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
Measuring range	pH 1-10; pH gradient can be maintained for hours
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 Papp drug recovery
Tested drug substances	Acyclovir, Atenolol, Calcein, Caffeine, Donepezil HCl, Hydrocortisone, Ibuprofen, Nadolol, Metoprolol, Paracetamol, Theobromine, Theophylline, Verapamil HCl
Warranty	Expiry date on label

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

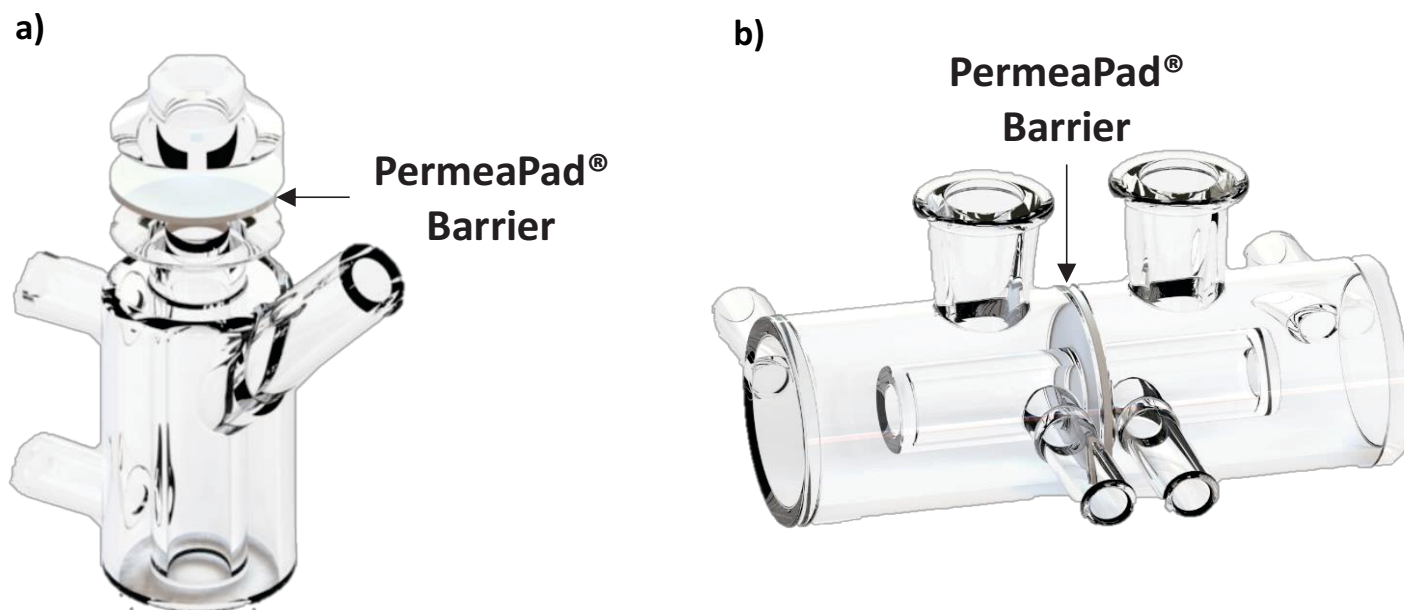


Figure 1: Figure of (a) Franz diffusion cell and (b) side-by-side diffusion cell and PermeaPad® Barrier.

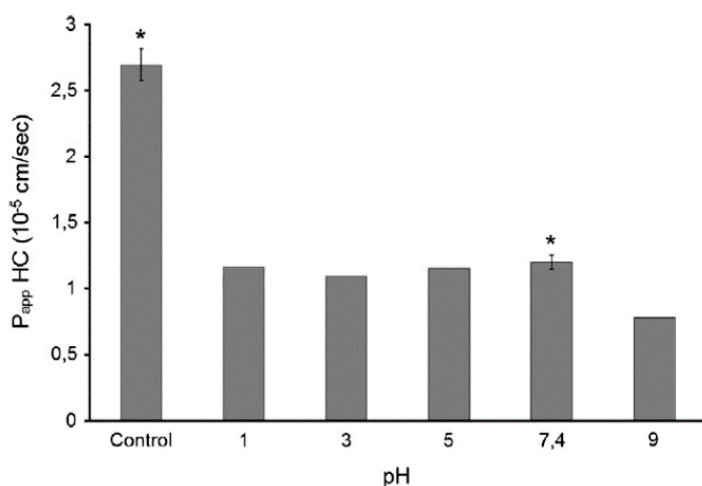


Figure 1: Functional stability PermeaPad® expressed by the permeability coefficient (P_{app}) of hydrocortisone at different pH values in a Franz-Cell. Control is represented by the permeability of hydrocortisone measured through support layer (cellulose membrane)¹.

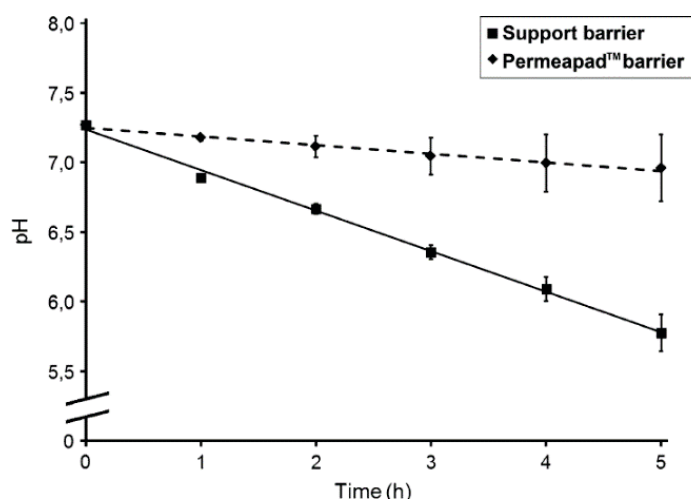


Figure 2: Resistance of the PermeaPad® Barrier and support barrier (cellulose-membrane) against a pH gradient (pH 7.4 / pH 1). The pH of the acceptor chamber (Franz-Cell) is plotted versus the time¹.

Version 4: Changes, including technical, reserved. 01.11.2019

References:

- 1 M. di Cagno et al. (2015) European Journal of Pharmaceutical Sciences 73 29-34
- 2 H. A. Bibi et al. (2016) European Journal of Pharmaceutical Sciences 93 399-404

*The information contained in this document is believed to be correct but ELECTROLAB accepts no liability for any errors and reserves the right to alter specifications without notice.

ELECTROLAB (India) PVT. LTD. (CIN NO : U33110MH2002PTC136735)
 Head Office: 401, Tirupati Udyog, I. B. Patel Road, Off. Western Express Highway, Goregaon (East), Mumbai - 400 063, India.

Factory: EL 23/24, T. T. C., Electronic Zone, M. I. D. C, Mahape, Navi Mumbai - 400 710, India.
 +91 - 22 - 4041 3131 sales@electrolabgroup.com
 +91 - 22 - 4161 3122 www.electrolabgroup.com