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PermeaPad® Plate



The PermeaPad® Plate is a multiwell plate system based on the innovative biomimetic PermeaPad® Barrier for the efficient investigation of passive permeability of drugs.

The developed 96-well multiwell plate system enables a breakthrough in high-throughput permeability screening. The innovative structure and plate-integrated biomimetic barriers (PermeaPad® Barrier) enable *in vitro* permeability assays*. Measurements with the PermeaPad® Plate are simple, fast and reproducible. The PermeaPad® Barrier simulates the cell membrane.

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.

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

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With the innovative PermeaPad® Plate, high-throughput screening provides fast, easy and reproducible data of the permeability of drugs through passive mass transfer.

Technical Data

PermeaPad®
Plate

General technical data ^{1, 2}

Wells	96
Material (Plate)	Polystyrene
Operation temperature	e.g. 25 °C; 37°C
Storage	Do not expose the product to sun and UV radiation and store at 25 °C.
Measuring range	1 – 10 pH
PermeaPad® Barrier	Integrated in the product
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} <i>drug recovery</i>
Tested drug substances	Acyclovir, Atenolol, Calcein, Caffeine, Donepezil HCl, Hydrocortisone, Ibuprofen, Nadolol, Metoprolol, Paracetamol, Theobromine, Theophylline, Verapamil HCl
Warranty	1 year

Changes, including technical, reserved. 01.01.2019



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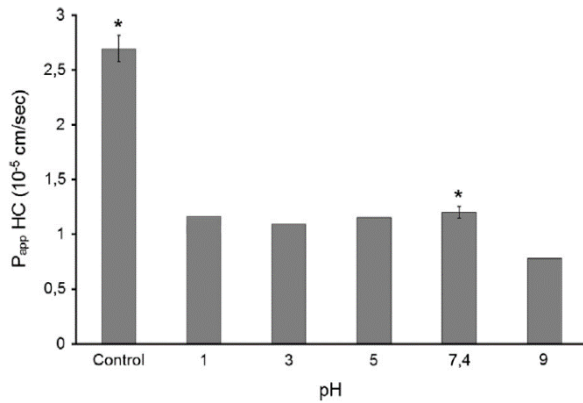


Figure 1: Functional stability Permeapad® expressed by the permeability coefficient (P_{app}) of hydrocortisone at different pH values in a Franz-Cell. Control is represented by the permeability of hydrocortisone measured through support layer (cellulose membrane)¹.

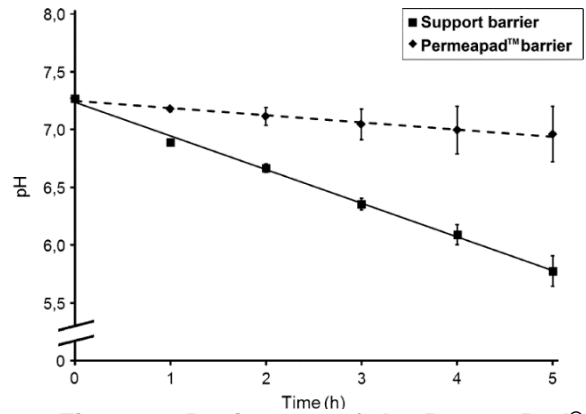


Figure 2: Resistance of the Permeapad® Barrier and support barrier (cellulose-membrane) against a pH gradient (pH 7.4 / pH 1). The pH of the acceptor chamber (Franz-Cell) is plotted versus the time¹.

Version 3: Changes, including technical, reserved. 01.01.2019

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