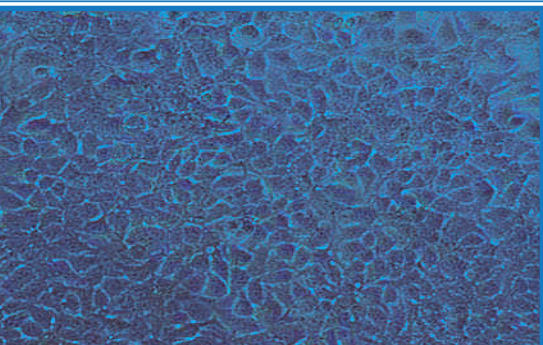


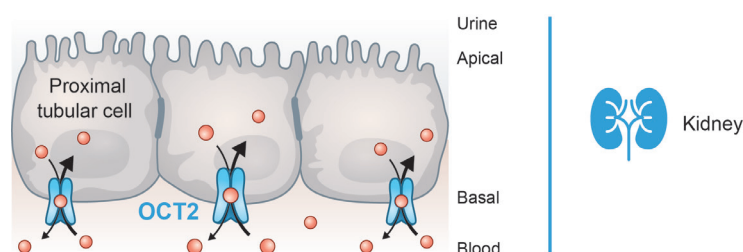
ReadyCell introduces **PreadyTake-OCT2**

PreadyTake-OCT2 is a cell-based assay for drug transporter studies in preclinical testing. It is delivered at room temperature in a semi-solid shipping medium in a 96-well plate format with 60 full use wells. The plate contains embryonic kidney cells (*HEK293*) overexpressing the Organic Cation Transporter 2 and/or the empty vector, according to the assay requirements.

PreadyTake-OCT2 applications

The OCT2-expressing HEK 293 cells model the net drug uptake in those barriers where it is expressed and allows identifying:

- OCT2 substrates, inhibitors and inducers
- Compound interactions (concomitantly administered drugs)
- Competitive inhibition (unexpected drug elimination)



The membrane-associated OCT2 transporter is mainly expressed in the renal tubular epithelial cells where it mediates cell internalization of positively charged drugs for their ulterior excretion through urine. Though in a lower proportion, OCT2 is also expressed in the brain, lungs, small intestine, thymus, placenta and inner ear ^{1,2}

Four simple steps to use PreadyTake-OCT2

1 Recieve

Ready-to-use
Cell Barrier

2 Liquefy

Liquefying of Solid
Shipping Medium

3 Apply

Incubation with
Test Compound

4 Assay

Assessment of Permeability/
Transport End Point

- Available on demand, adaptive to project schedule
- Worldwide room temperature shipments thanks to proprietary technology
- Ready-to-use format, reducing costs and easing the assay procedure
- Highest quality for a perfect replicability
- Adaptable to automation
- Specialized support from an experienced team

¹ Jéssica Veiga-Matos, et al. *Pharmacokinetics and Toxicokinetics Roles of Membrane Transporters at Kidney Level*, 2020. *J Pharm Pharm Sci* (www.cspCanada.org) 23, 333 -356

² Hermann Koepsell, et al. *Polyspecific Organic Cation Transporters: Structure, Function, Physiological Roles, and Biopharmaceutical Implications*, 2007. *Pharm Research*, 24:1227-1251

Experimental Data

Uptake kinetics of 1-methyl-4-phenylpyridinium (MPP⁺), a reference compound of the OCT2 transporter. Assays were performed after **PreadyTake-OCT2** was exposed for 4 days to the shipping medium and a subsequent 72 h culture in fresh medium. *These data are the result of three independent experiments.*

● HEK-MOCK ● HEK-OCT2 ● NET UPTAKE

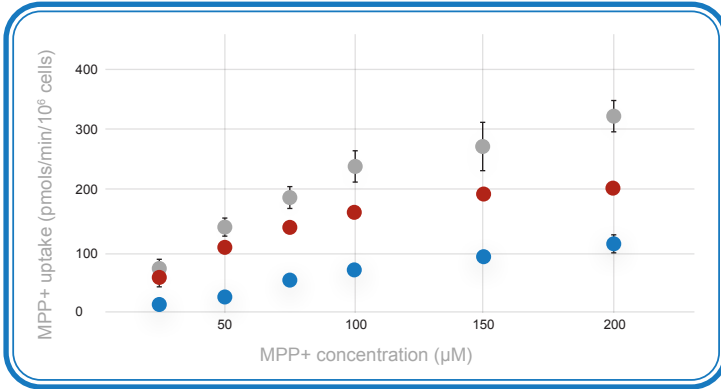


Figure 1 OCT2-mediated MPP⁺ internalization.

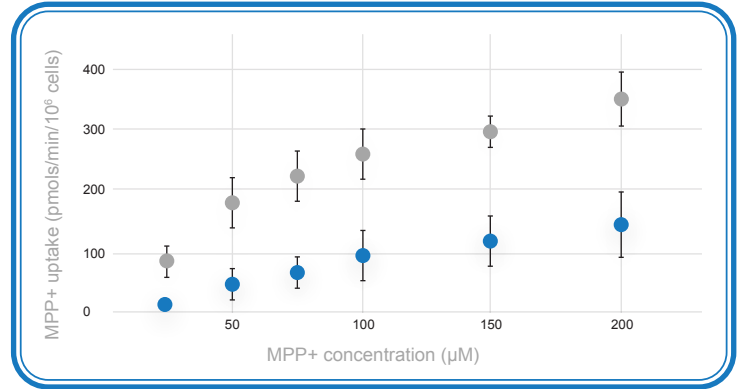


Figure 2 MPP⁺ uptake (batch-to-batch variation).

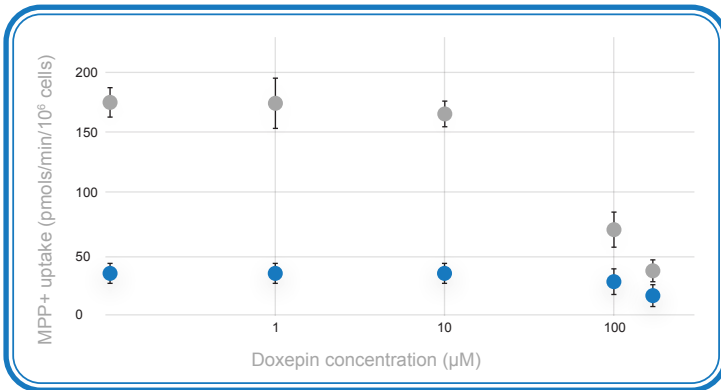


Figure 3 OCT2 inhibition by doxepin. *Measurement of MPP⁺ internalization after incubating HEK293 cells in the absence/presence of increasing concentrations of doxepin.*

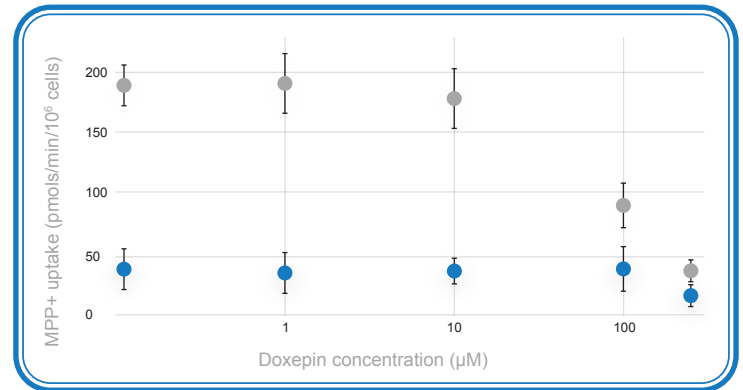


Figure 4 Doxepin inhibition (batch-to-batch variation).

Quality Controls

A fluorescence-based approach is used to rapidly evaluate **PreadyTake-OCT2** functionality. Assays were performed after **PreadyTake-OCT2** was exposed for 4 days to the shipping medium and a subsequent 72 h culture in fresh medium.

● HEK-MOCK ● HEK-OCT2 ● NET UPTAKE

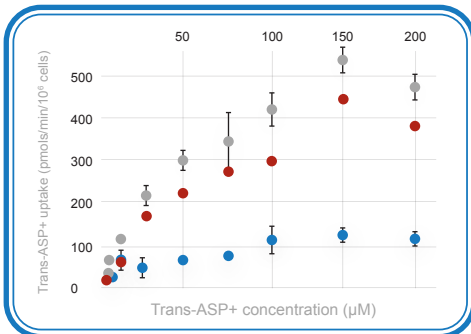


Figure 5 OCT2-mediated trans-ASP⁺ internalization. *These data are the result of 4 independent experiments.*

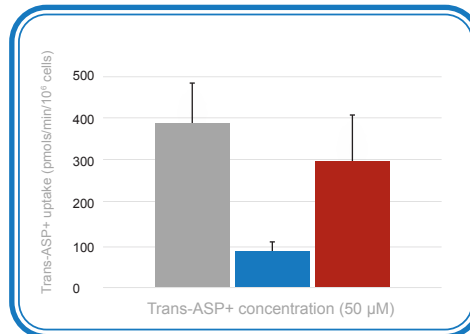


Figure 6 Trans-ASP⁺ uptake (batch-to-batch variation). *These data are the result of 4 independent experiments.*

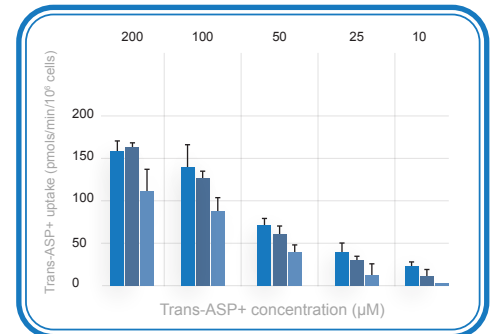


Figure 7 Effect of DMSO on OCT2 functionality. ● 0.5% DMSO ● 1% DMSO ● 2% DMSO *These data refer to a single experiment in triplicates.*

OCT2 – Regulatory Requirements

Recommendations for identifying OCT2 substrates and inhibitors are outlined by the 2020 FDA Guideline and recommended for consideration according to 2012 EMA Guideline