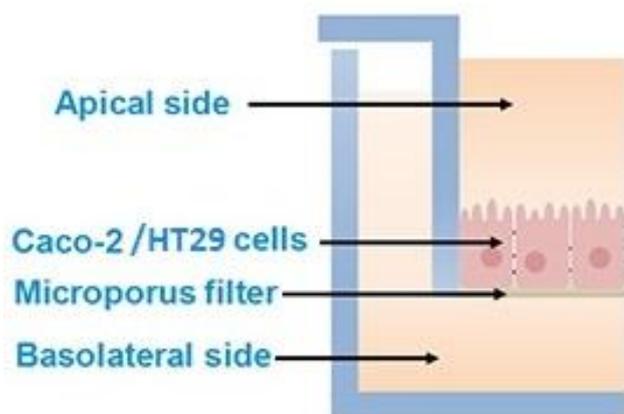




ReadyCell has developed **CacoGoblet**, a mucus-secreting ready-to-use kit. The kit consists of 24 and 96-well permeable supports seeded with differentiated Caco-2 and human goblet cells. **CacoGoblet** allows *in vitro* intestinal absorption evaluation of drug targets in a barrier physiologically closer to the intestinal epithelium. **CacoGoblet** is flexible, since plates can be used up to 5 days after ideal cell barrier differentiation at day 21, being a time and cost-saving tool for early stage drug discovery and development.



## CacoGoblet Features

- Cell-based
- Ready-to-use
- 24 and 96-HTS insert- integrated plate format
- Exclusive solid shipping medium

## CacoGoblet Applications

- Evaluation of oral absorption efficiency, oral bioavailability and oral toxicity
- Adaptation to High Throughput Screening of target compounds
- Study of mechanisms involved in oral and intestinal absorption
- Suitable for research on new delivery systems

## CacoGoblet Benefits

- Mucus-secreting CacoGoblet represents a more predictive model for compounds or formulations with passive diffusion transport pathway
- CacoGoblet allows end-users to avoid in-house maintenance and handling of cell cultures, thus reducing operating costs
- CacoGoblet provides a 21-day barrier
- Our exclusive shipping medium ensures the stability of barrier properties
- The kit has been designed to provide a user-friendly and suitable tool for high-throughput automated procedures
- High flexibility as the kit is useable up to 5 days after 21-day cell barrier differentiation





## Shipping medium

- ✓ Solid at room temperature ( liquid at 37°C )
- ✓ Preserves cell viability
- ✓ Permits differentiation process progression
- ✓ Do not affect cell culture properties
- ✓ Do not perturb monolayer integrity



### RECEIVE

### LIQUIFY

### APPLY

### ASSAY

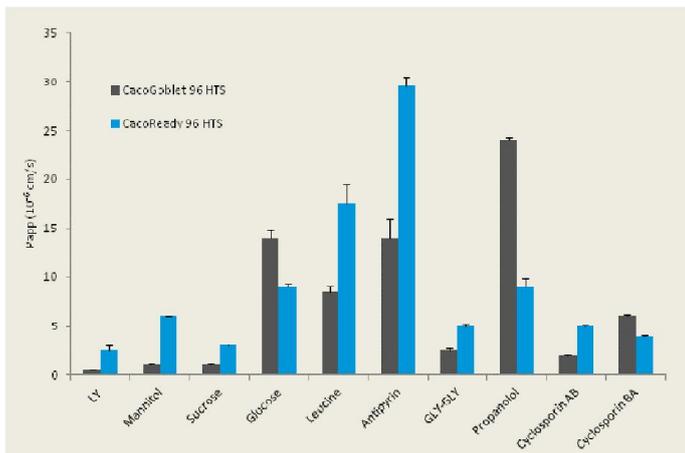
Ready-to-use cell barrier

Liquefying of solid shipping medium at 37°C

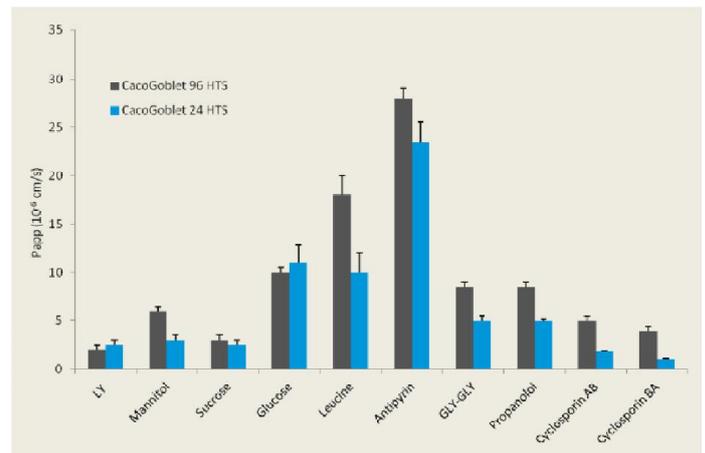
Incubation with test compound

Assessment of permeability /transport end point

## CacoGoblet Experimental Data: Apparent permeability coefficient of standard compounds



- Functionality comparison of **CacoGoblet 96 HTS** vs. **CacoReady™96 HTS** barrier, evaluated by permeability assays of several compounds at day 21



- Functionality comparison of **CacoGoblet 96 HTS** vs. **CacoGoblet 24 HTS** barrier, evaluated by permeability assays of several compounds at day 21

	Human Intestine	Caco-2	CacoGoblet
Composition	absorptive (80%), mucus-secreting (10-30%)	absorptive (100%)	absorptive (50%), mucus-secreting (50%)
Presence of mucus	YES	NO	YES
Paracellular permeability	More permissive epithelium	Very tight epithelium	More permissive epithelium
TEER (ohms)	20-110	2000-3000	80-120



## Characterization of the mucus in CacoGoblet™

- **Image A:** Cellular disposition of Caco-2/M6 co-culture showed by fluorescent  $\alpha$ -E-cadherin ICC
- **Image B:** Confocal transversal section of  $\alpha$ -E-cadherin ICC in Caco-2/M6 co-culture (Negative contrasted image)
- **Images C and D:** Confocal microscopy merge, showing the mucus layer distribution, stained by IHC  $\alpha$ -drug with ALEXA FLUOR® 488 Phalloidin. C, D correspond to low and high passage, respectively
- **Images E and F:** In vivo specific mucopolysaccharide staining with alcian blue. E, F correspond to low and high passage, respectively

