

Intestinal Epithelial Differentiation Media for Caco-2 Cells

Human colon cancer-derived cells (Caco-2) are known to differentiate into intestinal epithelial-like cells by overcrowding culture, and are widely used in drug discovery research fields as a cell model that reproduces intestinal function in the small intestine.

This product is a serum-free medium for intestinal epithelial differentiation of Caco-2 cells. By utilizing this product, it is possible to shorten the differentiation period, which generally takes about 3 weeks, to about 5 days.

Product Specifications

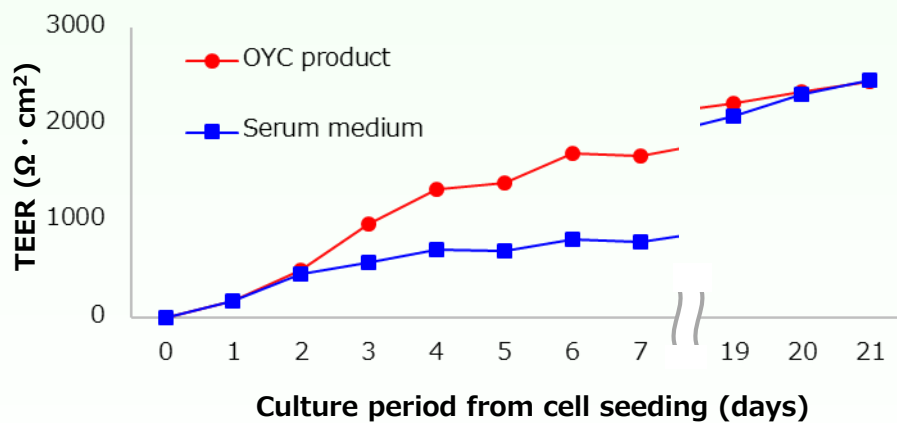
Intestinal Epithelial Differentiation Media for Caco-2 Cells

Form:	Liquid
Serum:	Free
Volume:	250 mL per bottle
Storage:	Refrigerated temperatures (1-10°C)



<Application>

TEER of Caco-2 cell monolayer during intestinal epithelial differentiation process



Caco-2 cells were seeded in 24-well plate culture inserts with 2×10^5 cells (day 0) and replaced with each intestinal epithelial differentiation medium the next day (day 1). Then, the medium was exchanged with the intestinal epithelial differentiation medium every 1 to 2 days, and TEER (transepithelial electrical resistance) of monolayer was measured.

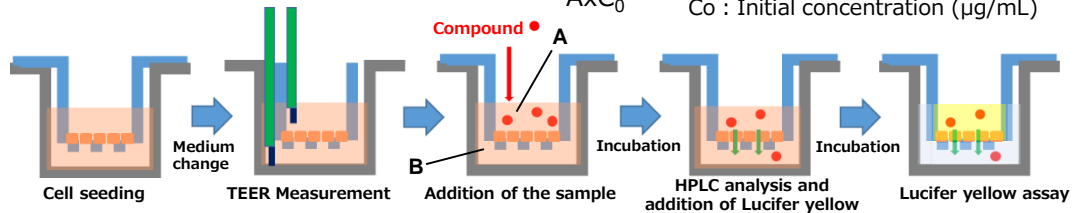


A test for intestinal absorption

A test for intestinal absorption was conducted using the intestinal epithelial differentiated by this product, and absorption was evaluated by HPLC analysis of the B side medium. The permeability coefficient was calculated by the following formula.

$$\text{Permeability coefficient (cm/sec)} = \frac{dQ/dt}{A \times C_0}$$

dQ/dt : Permeability rate
 A : Area (cm²)
 C_0 : Initial concentration (µg/mL)



Medicine	Applications	Permeability coefficient (cm/sec)	Permeability evaluation by FDA
Propranolol	Treatment of arrhythmia, hypertension, myocardial infarction, glaucoma and migraine	8.7×10^{-6}	High
Ketoprofen	Transdermal analgesic and anti-inflammatory drug	5.6×10^{-6}	High
Atenolol	Treatment of angina pectoris	3.0×10^{-7}	Low

※The expression of transporters (P-gp, BCRP) has been confirmed by RT-PCR on the monolayer membrane formed by this product.

※It has been confirmed that Lucifer Yellow does not permeate the monolayer membrane formed by this product.

Product name	OYC No.	Package
Intestinal Epithelial Differentiation Media for Caco-2 Cells	47338000	250 mL

- * For bulk inquiry, please contact our sales representative or visit the following website.
- * For research purposes only. Not for therapeutic or diagnostic use.

Reference cited this product

- Evidence-Based Complementary and Alternative Medicine 2022 Sep, Article ID 4139812, 9 pages.

Reference

- J Basic Clin Pharm. 2010 Mar;1(2):63-9.
- Br J Pharmacol. 2012 Apr;165(8):2598-610.

Please contact the one that best suits your need.

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