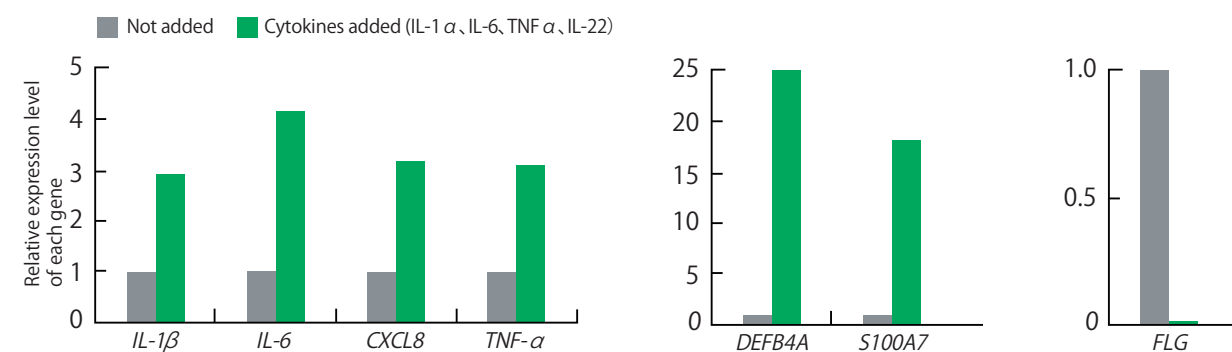


Example 3 Application of FibColl® in a psoriasis-like epidermal inflammation model



qPCR evaluation of gene expression in an epidermis model after induction of psoriasis-like inflammation

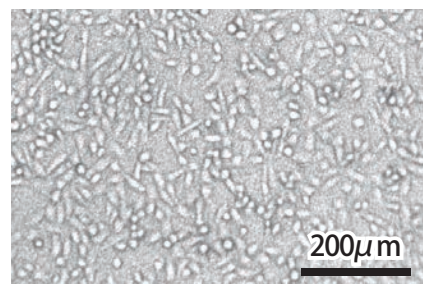
In an epidermal model cultured for 7 days at the air-liquid interface on FibColl®, cytokines were added twice at 24-hour intervals after medium exchange to induce inflammation. Expression of several psoriasis-related genes was found to be upregulated or downregulated, indicating the utility of FibColl® in constructing psoriasis models. Sufficient RNA was extractable from FibColl® (24 well plate size) for qPCR analysis (Internal data).

Product Feature Cell culture inserts designed for ease of use

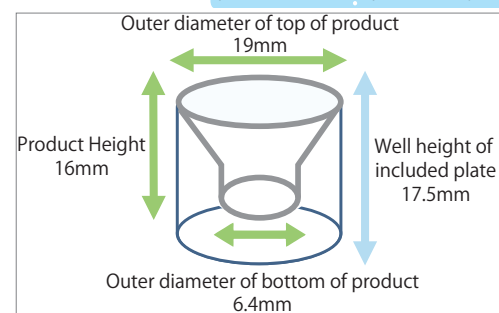
Product Size	Membrane Size
φ 19mm × 16mm	φ 6.4mm × 35 μm



Easy medium exchange without insert removal !
Inserts designed with 2 pipette-accessible openings.



Cells adhere well to the substrate and can be observed under a phase contrast microscope (internal data).



Compatible with 24-well plates from various companies (in-house verification with 6 products).

Cat. No.	Description	Quantity	Storage
KOU-FAI-24	FibColl® Atelocollagen Inserts	24 pcs/bag	room temperature

World distributor



2792 Loker Avenue West, Suite 101, Carlsbad, CA 92010 US
A Phone : +1 760-431-4600 / Fax : +1 760-431-4604
e-mail : support@cosmobioussa.com
web : <https://www.cosmobioussa.com/>

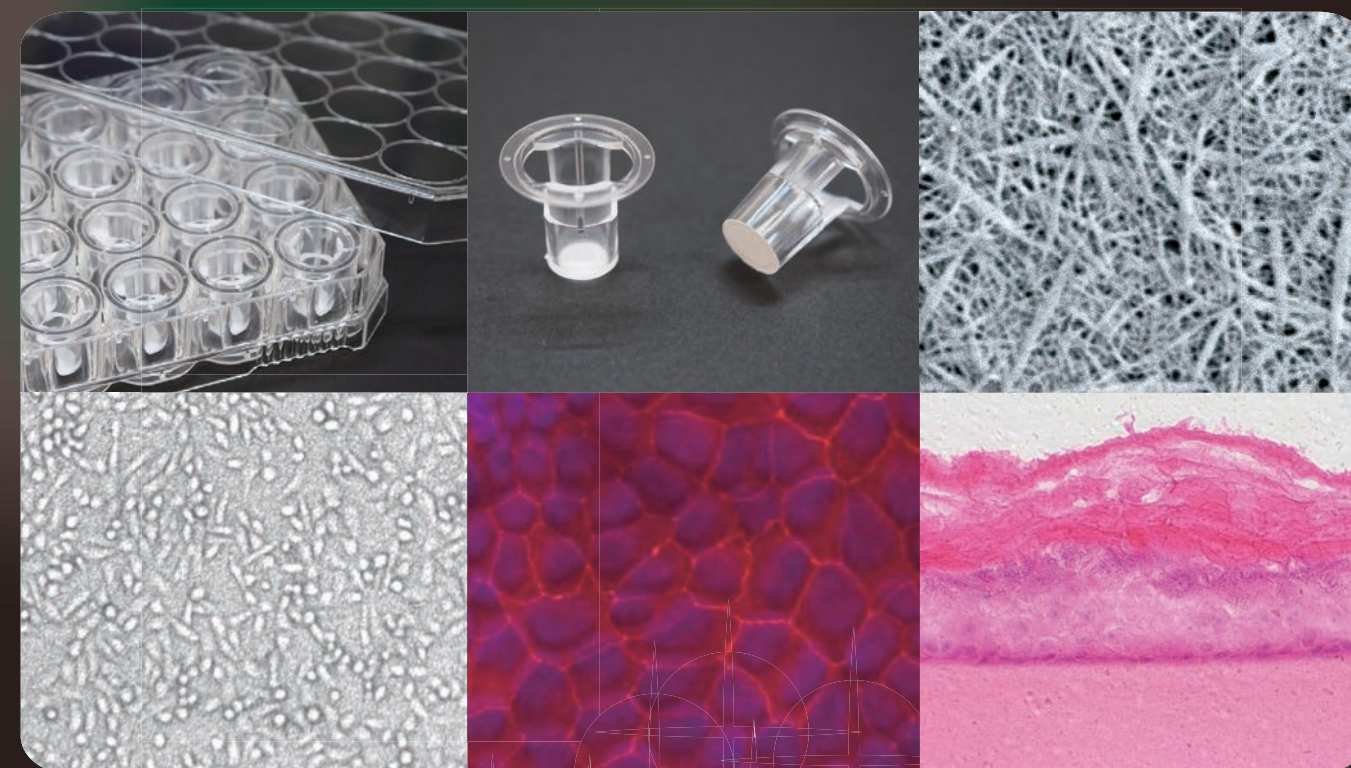
Please don't hesitate to contact us with any questions related to product selection or use.

<https://www.cosmobioussa.com/>

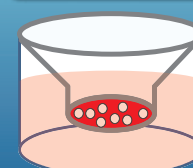
For research use only. Application to the human body is strictly prohibited.
Do not use them for any purpose other than research.
Atelocell® and Fibcoll® are a registered trademarks of KOKEN Co., Ltd..

FibColl®

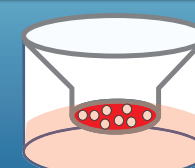
Atelocollagen Inserts 24



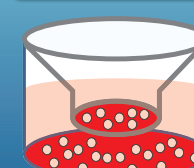
Culture on membrane



Air liquid interface culture



Co-culture



Cell sheet transplantation



FibColl® Atelocollagen Inserts 24

KOU-FAI-24

Highly permeable Atelocollagen Inserts for 24 well plates

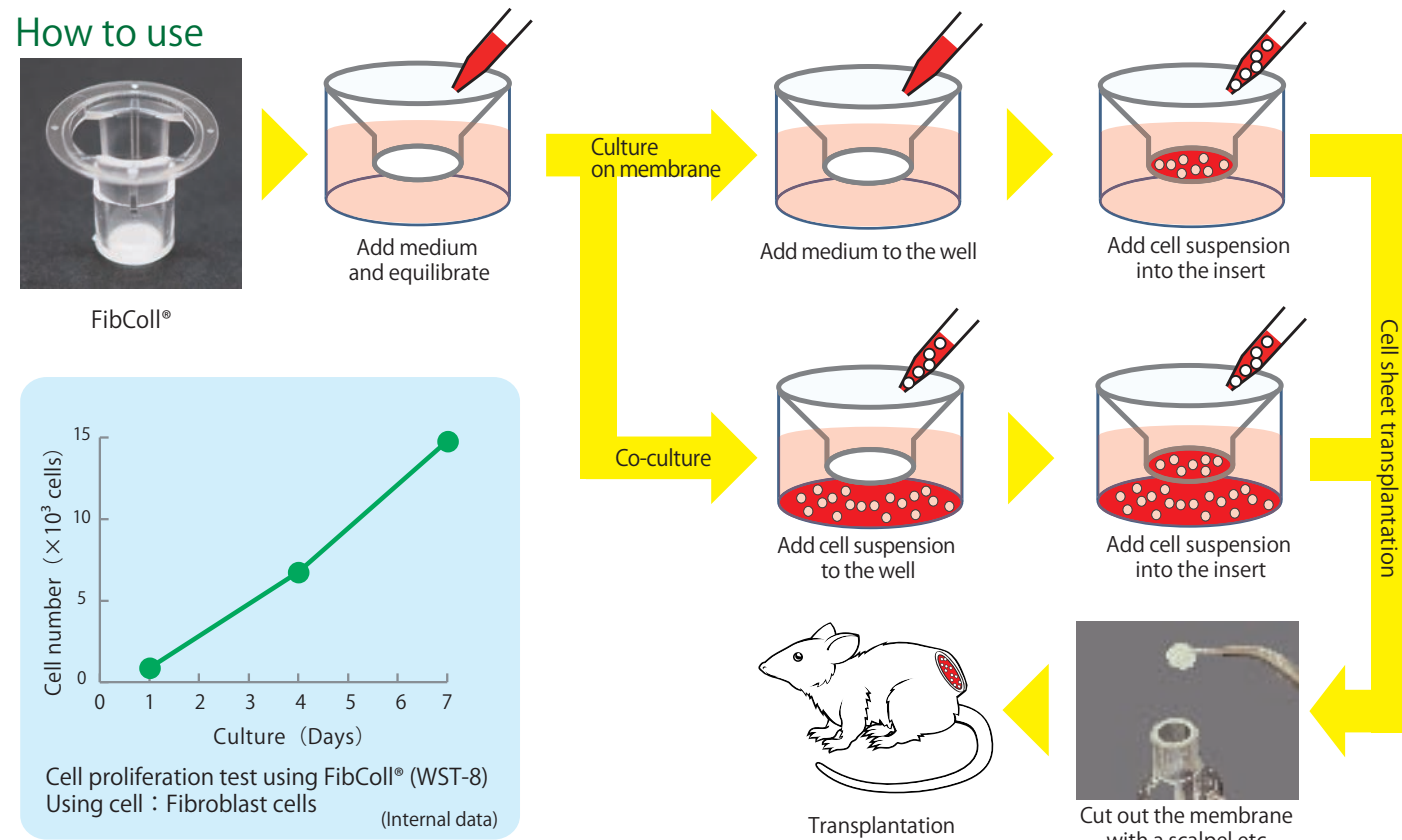
Product Overview

FibColl® is a novel cell culture insert featuring a membrane composed solely of atelocollagen. Unlike products that use plastic membranes coated with collagen, the pores are not obstructed, allowing permeability of molecules ranging from small sizes to over 600 kDa. The fibrous structure of the atelocollagen mimics in vivo environments, enabling physiologically relevant cell culture conditions.

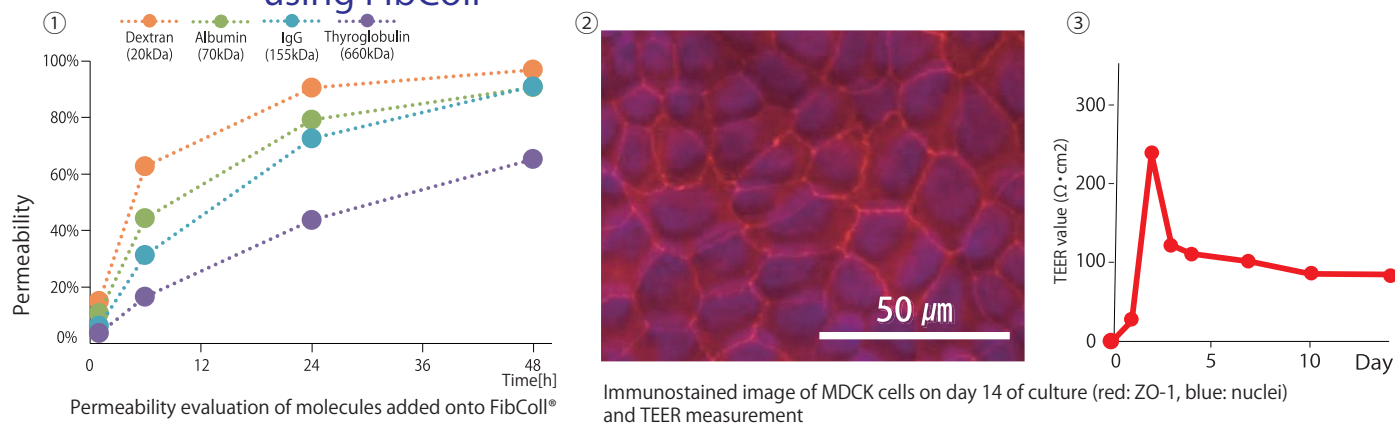
Applications

Membrane culture, air-liquid interface culture, co-culture, cell sheet transplantation

How to use

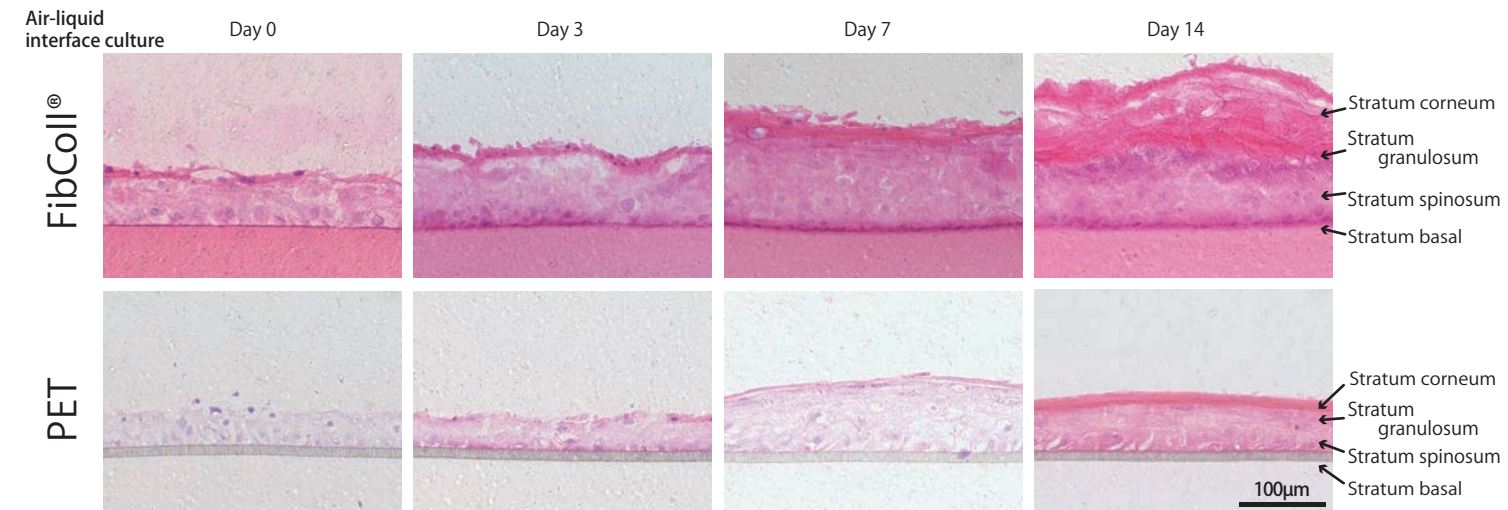


Example 1 Evaluation of substance permeability and barrier function using FibColl®



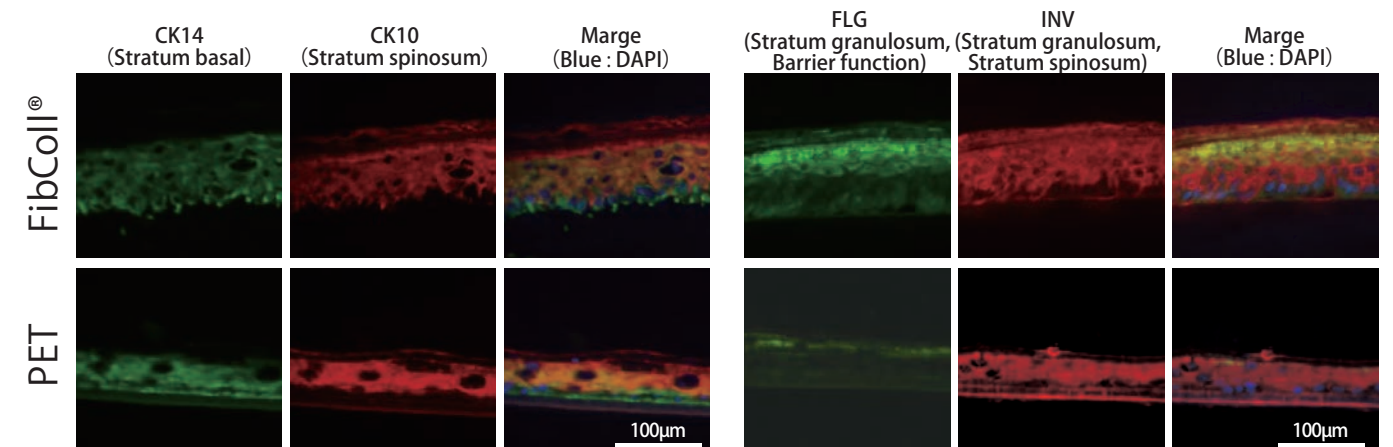
① After adding a solution of the evaluation molecule onto the FibColl® membrane, the molecules that migrated under the membrane were quantified. Proteins over 600 kDa also permeated ② Canine renal tubular epithelial cells (MDCK cells) were cultured on FibColl® for 14 days, and the formation of tight junctions was confirmed by immunofluorescent staining of ZO-1. ③ Transepithelial electrical resistance (TEER) measurements showed electrical resistance. (Internal data)

Example 2 Accelerated maturation of epidermal model using FibColl®



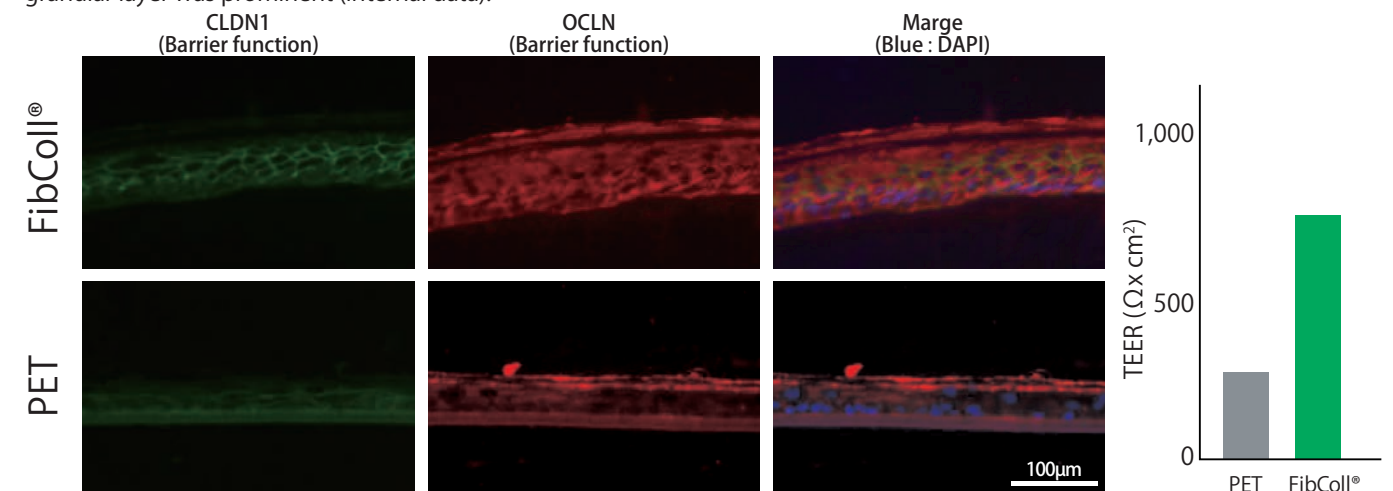
HE staining images (cross-sections) of each epidermis model on days 0, 3, 7, and 14 of air-liquid interface culture

Normal human epidermal keratinocytes (1.8×10^5 cells) were seeded on the membrane of FibColl® or polyethylene terephthalate cell culture inserts (PET), and cultured submerged for 3 days, followed by air-liquid interface culture for 14 days. Frozen sections of each epidermal model were then observed using HE staining. As a result, a mature stratum corneum was formed on FibColl® as early as day 7 of culture, and further layering of the stratum corneum was confirmed on day 14 (internal data).



Immunofluorescent staining images (cross-sections) of each epidermis model on the 7th day after air-liquid interface culture

When the expression of each epidermal marker was observed by immunofluorescence staining, maximum expression of CK14, a basal layer marker, was observed near the basal layer with FibColl®. In addition, the staining distinction between CK14 and the spinous layer marker CK10 was clearer than with PET. Furthermore, expression of FLG, a granular layer marker, near the granular layer was prominent (internal data).



Immunofluorescent stained images (cross-sections) of each epidermal model on the 7th day after air-liquid interface culture and TEER measurement results

In FibColl® culture, clear expression of CLDN1 and OCLN, components of tight junctions, was confirmed by immunostaining. In addition, TEER measurement showed that FibColl® had a significantly higher TEER value than PET (internal data).