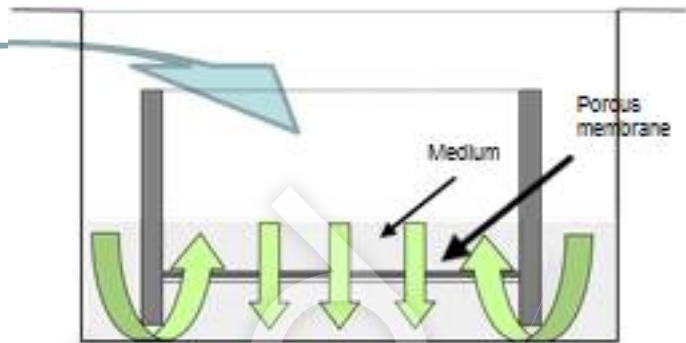


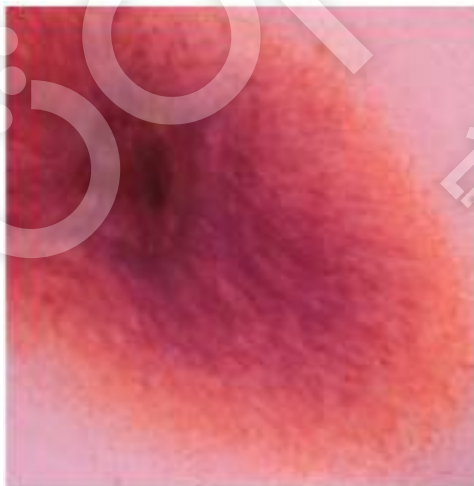
Preset VECCELL®

For 3D Cell Culture *in vivo*-like



- **Ready to Use** . In Preset VECCELL®, VECCELL® Inserts are already set in the well plate (6well/24well), packed by sterilization and ECM has been already coated. Therefore, cell seeding is possible immediately.
- A dense aggregate of normal cells that do not exist *in vivo* is not formed on the VECCELL porous membrane but cells on it proliferate in their native-like structure due to the high porosity.
- As the medium freely pass through the VECCELL porous membrane, whole each cell can be immersed in the culture medium close *in vivo*.
- To become transparent when touching the culture medium on the VECCELL porous membrane, cell observation with an inverted microscope is possible. In addition, the porous membrane can be not only cut but also be easily taken a photo sections.

● VECCELL® has adopted a porous biocompatible membrane



VECCELL®



Plastic Dish

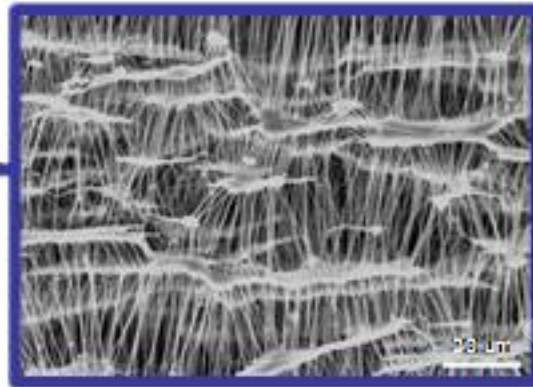
In comparison of cultured human periodontal ligament tissue on the plastic dish with on the VECCELL®, ALP high cell proliferation activity has been observed. Tissue culture is one of the very difficult one and VECCELL® can help cells proliferate, in addition to it, maintaining a state of high ALP activity is a great feature.

(Cited from Prof. Tomoyuki Kawase's laboratory data of Niigata University Graduate School of Medical and Dental)

◆ The membrane is the same material as VECCELL® 96-well Plate



VECCELL



Scanning electron micrograph of the surface of the porous membrane

Fiber length

10-50 μm

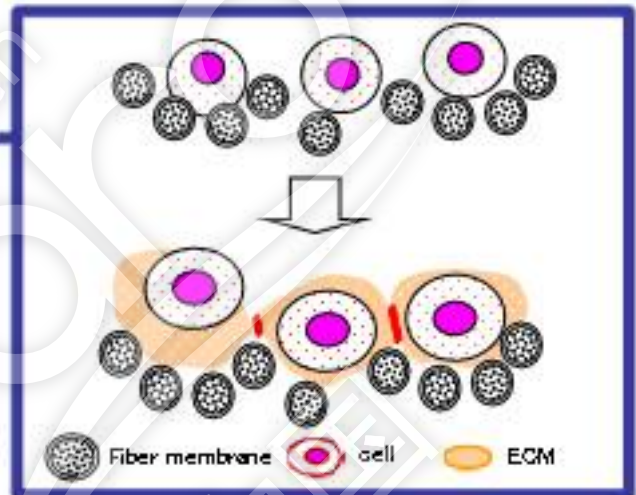
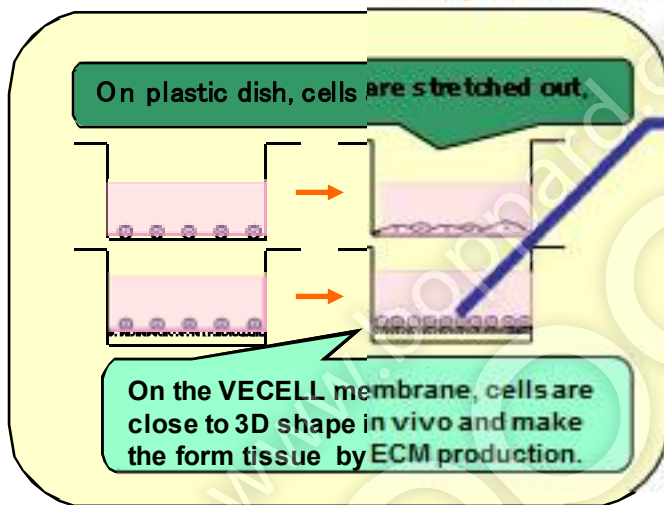
Width Between the fibers

2-5 μm

Thickness of the membrane

50-70 μm

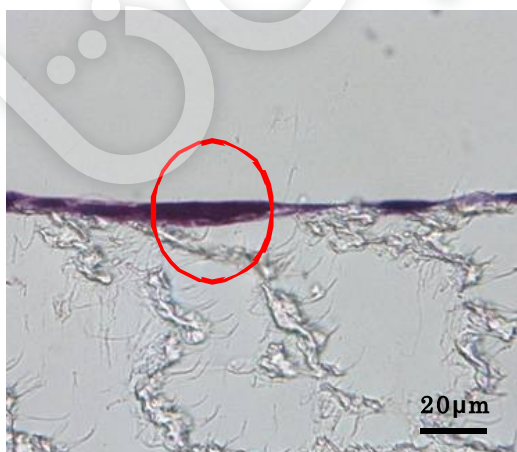
Porosity 90%



Cell tissue formed on a porous membrane

● VECCELL® makes the organization of cells possible

Cross-section after long-term culture of Caco-2 cell



The 3rd day of culture



The 26th day of culture

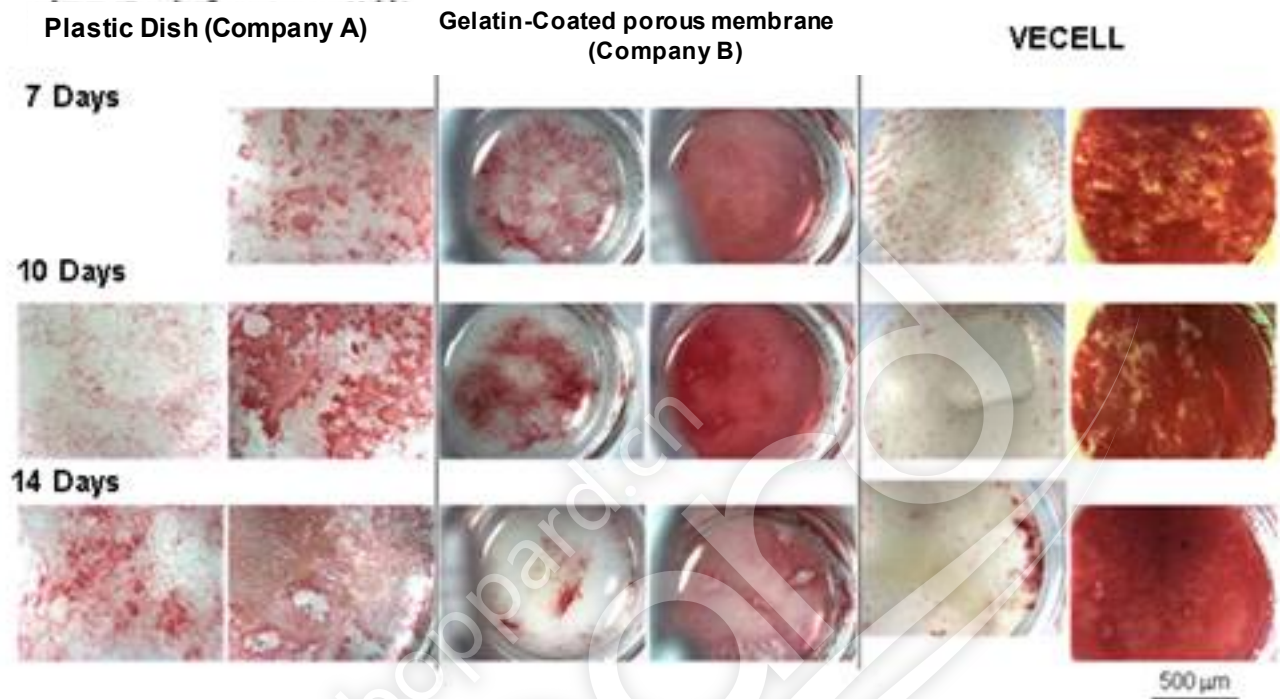
Cell Layer

ePTFE Layer

On the VECCELL membrane, culture layer close to almost monolayer culture is formed and the production of ECM tissue formation has been made. In addition, for culture on the membrane, such sections can be easily adjusted, and what not only the proliferation of cells but also the growth of ECM can be easily observed is one of the features of VECCELL®.

● In vivo-like reactions in vitro

Culture mesenchymal stem cells taken from the bone marrow of rats



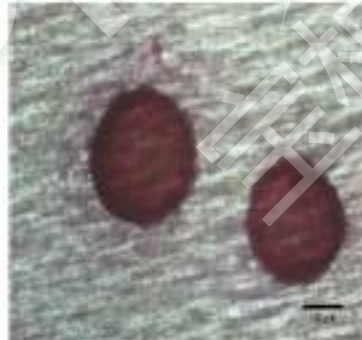
The above figures show the culture of mesenchymal stem cells taken from the bone marrow of rats on VECELL, plastic dishes, gelatin-coated dishes and the experimental result of the ALP activity. As compared to other incubators, on VECELL, very high ALP activity of cell proliferation has been observed. Dekisamesozon is additive-free in the left incubator and additive in the right one.

(From Mr. Hajime Ogushi's data of Industrial Research Institute of Cell Engineering Division)

● Maintenance of undifferentiated stem cells

Gelatin-coated Dish

VECELL



Culture of Mouse ES Cell(C3Hf c-1)[Day 7 of culture—ALP staining]

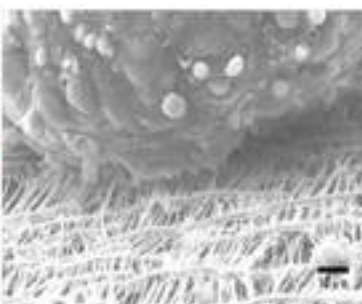
When ES cells(C3Hf c-1) derived from mouse on gelatin-coated dishes are cultured, their cells are stretched out and differential cells with low ALP activity have been observed a lot in the region of the red circle. Therefore, when cultured on the VECELL® porous membrane, undifferentiated ES cells aggregates with high ALP activity have been observed.

Furthermore, when observing ES cells cultured on the VECELL® porous membrane, this embryoid body-like aggregates seems to adhere the membrane at a slight protrusion.

And this aggregates on the VECELL® porous membrane can be easily recovered with a pipette. Next, when recovered embryoid body-like aggregates on gelatin-coated dish is seeded, the differentiation of cells progresses quickly and also some cells differentiate into cardiomyocyte-like beat have been observed.

Adherent cells adhere and proliferate on the VECELL® porous membrane, but ES cells reveals a completely different culture proliferation mechanism.

In this way, when cultured on the VECELL® porous membrane, the cell proliferation depending on the characteristics of the cell can be observed.

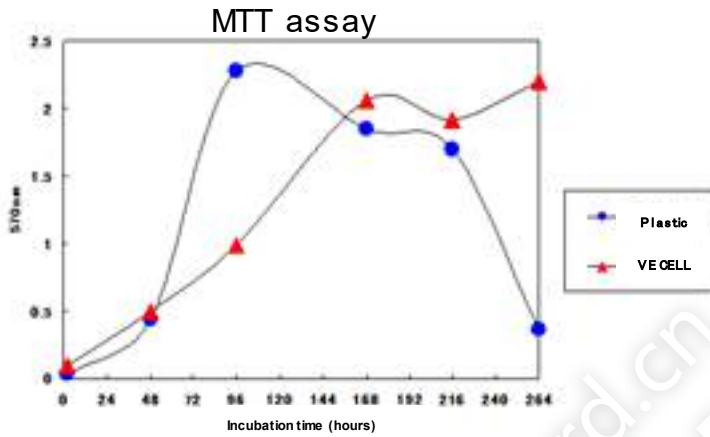


Mouse ES Cell(C3Hf c-1) on the VECELL® porous membrane [Day 7 of culture —Scanning electron micrograph]

● **VECELL[®] makes the high-density culture for a long time possible.**

◆ **Comparison of the proliferation of L929 cells**

Cells are maintained at a high density.



264 hours culture (Day 11)



VECELL[®]

Plastic Dish

In comparison of the plastic dish and VECELL[®], in the early stage of culture, the cell proliferation on the plastic dish is higher than on VECELL[®]. In a further incubation period, in culture on VECELL[®], long-term stability of the many number of cells has been observed.

Product	Item No.	Diameter of VECELL	Well Plate	Qty
Preset VECELL [®] 30/6well(1)	PSVC30-1	30mm ϕ	6 Well Plate	1 plate
Preset VECELL [®] 30/6well(10)	PSVC30-10	30mm ϕ	6 Well Plate	10 plates
Preset VECELL [®] 12/24well(1)	PSVC12-1	12mm ϕ	24 Well Plate	1 plate
Preset VECELL [®] 12/24well(10)	PSVC12-10	12mm ϕ	24 Well Plate	10 plates

Manufacturer



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Mail : kodama@vessels.co.jp
HP : <http://www.vessels.co.jp>

Main Dealer



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Inspiration for Life Science

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Koto-ku,
Tokyo 135-0016, Japan

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