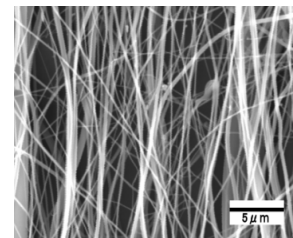


Chitosan Nanofiber Coated Culture ware

· Culture plate · Culture coverslip

FOR RESEARCH USE ONLY



NEW Chitosan Nanofiber Coated Culture ware

Useful for the primary culture, subculture and tissue culture

This product is a cell culture ware that coats the Chitosan Nanofiber. Chitosan is a polysaccharide polymer produced by alkali processing (deacetylation) of chitin, which is natural material found in various living things such as shellfish (shrimp, crab), insects and mushrooms. Unique properties of Chitosan, such as biocompatibility and biodegradability, can be designed by controlling the molecular weight of Chitosan and the degree of deacetylation, conversion rate to the Chitosan.

One of distinguishing properties of Chitosan nanofiber is to become scaffolding material in cell culture. With Chitosan nanofiber, adhesiveness of cultured cell can be improved (compared to the culture in polystyrene plate or glass cover slip).

Chitosan nanofiber is hardly perishable and is an easy-to-use material for cell/tissue culture, compared to poly-L-lysine or collagen coated culture dish.

Features:

- Average diameter of Chitosan Nanofiber is about 200nm in average.
- Suitable to nerve cell culture
- Suitable to fat cell culture
- Hardly perishable, re-sterilize, and easy-to-use

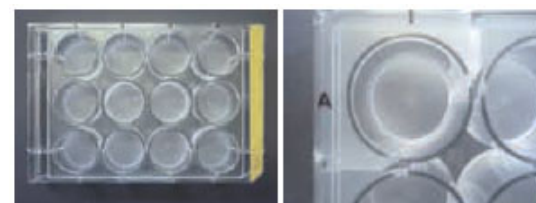
Product specification

Item	Specification	Remarks
Deacetylation of Chitosan	>90%	
Amount of fixed Chitosan	0.05 ~ 0.1 mg/cm ²	For cover slip, Chitosan nanofiber is fixed on one surface
Sterilization method	Ethanol	Ware is wet by ethanol.

Fig. 1 Coverslip



Fig. 2 Plate



Ware	Kind	Cat #	Quantity
Cover slip	13mmφ	HKS-HSC13	5 sheet
	15mmφ	HKS-HSC15	5 sheet
Plate	12well plate	HKS-HSP12	1 plate
	24well plate	HKS-HSP24	1 plate
	96well plate	HKS-HSP96	1 plate

- 18 mmφ or 22 mmφ of cover slip and 48well plate can be customized on your request.
- We would be happy to provide you with a sample free of charge.

Recommended Cells

1

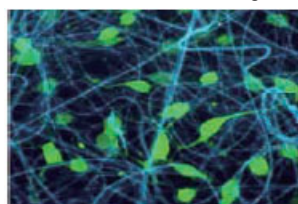
Cell lines such as Schwann cell (IMS32), PC12, etc and ganglion implant culture can be used. It can observe the neurite extension of sensory nerve cell in ganglion and the migration of schwann cells. It is not necessary for a special preparation at explant culture of Adult mouse dorsal root ganglia (DRG), and can be cultured by leaving the implant on Chitosan Nanofiber. Moreover, because the neurite extension and the proliferation are definitely within two-dimensionl surface, it is easy to observe by microscopy with immunofluorescence.

2

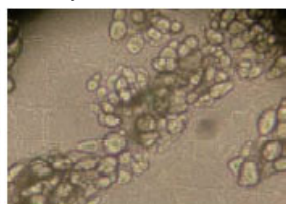
Visceral fat cell has a weak adhesiveness. Cells cultured on non-coated plate have been detached in around 2 weeks in culture, and are difficult to culture for a long term. In contrast, that on Chitosan nanofiber coated plate were maintained until 54 days in culture, as the cells grew holding nanofibers within the cell cluster. In addition, normal cell function was detected as sufficient secretion of adiponectin, which is a kind of cytokine which the fat cell secretes.

3

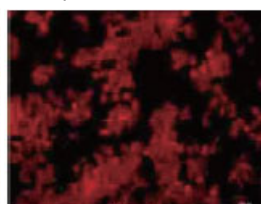
Primarily suitable to adhesive established cell line culture. (Experimental cultured cell: Mouse osteoblast MC3T3-E1, Mouse fibroblast NIH3T3, African green monkey renal cell COS-7, Human Hepatocellular carcinoma HepG2, Human cervical cancer cell Hela, etc)



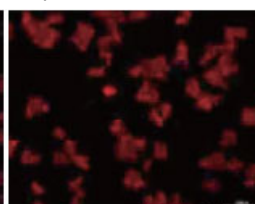
Mouse schwann cell IMS32



Rat visceral fat cell



Mouse osteoblast MC3T3-E1



HeLa human cervical cancer cell

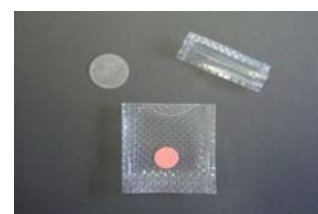
How to use

[multiwell plate]

- The Chitosan nanofiber (cell culture part) is fixed at the bottom of well.
- Plate is singly packed by the vacuum packing. Please open the vacuum packing with scissors etc., and use it.
- There is ethanol in well of plate. Please use it after leaving about 30 minutes ~ 1 hour in the room temperature in a clean bench and drying the ethanol, or after replacing the ethanol with the culture solution etc.

[cover slip]

- Chitosan nanofiber is fixed on one surface of cover glass (cell culture side).
- The cover slip is doubly packaged by aluminum laminate packing (pack on the outside) and clear packing (pack on the inside). There are five clear packing in one aluminum laminate packing, and there is one cover slip in one clear packing.



- The cover slip is packed by a clear packing so that Chitosan nanofiber-fixed side (cell culture side) turn to the side red seal is stuck. Please do not mistake the cell culture side.
- There is ethanol for disinfection in a clear packing for ethanol sterilization.
- When opening, at first, please open from the incision of the aluminum laminate packing and take out clear packings with tweezers etc. Next, the upper side of clear packing is cut with scissors etc., and please take out a cover slip with tweezers etc. and use it.
- The cover slip is wet in the ethanol. Please use it after leaving about 30 minutes in the room temperature in a clean bench and drying the ethanol, or after replacing the ethanol with the culture solution etc.

Stability

The expiration date is one year or more from the shipment day in the refrigeration keeping (about 5°C), six months or more in the room temperature keeping. There is no problem in the quality though the Chitosan nanofiber might dry while keeping it and become white.

References

- 1) Tsuneo Ohkuma ,et al.,Chitin and Chitosan Research12(2) 190-191(2006)
Preparation of Chitosan Nanofiber Mesh as a Scaffold for Regenerating Nerve Tissue
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Manufacturing chitosan nanofiber by electrospinning process
- 3) Katsuyoshi Sakai ,et al.,Chitin and Chitosan Research13(2) 126-127(2007)
Manufacturing cell culture substrates on chitosan nanofiber and manufacturing chitosan gel,chitosan sponge
- 4) Kazuhiko Watabe ,et al.,Chitin and Chitosan Research13(2) 128-129(2007)
Neural tissue culture on chitosan nanofiber matrices

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