Product Information

Lyo ECM Gel

Lyophilized powder, Bioreagent, Suitable for cell culture

E1272

Storage Temperature: 2-8 °C

Product Description

ECM Gel is a solubilized basement membrane matrix secreted and extracted from EHS mouse sarcoma cells that works as a complex network of proteins and other molecules that surround, support, and give structure to mammalian tissues. Lyo ECM Gel is a novel lyophilized version of the normal ECM gel product providing adjustable research concentrations, enhancing product stability and ease-of-use for many biological applications. The extracellular matrix helps cells attach to, and communicate with, nearby cells. It plays an important role in cell functioning, including growth and movement. Commonly used for: Culturing of invasive cells, induce stem cells proliferation and differentiation, formation of organoids, suitable for the development of cancer cells and xenografts.[1]

Prevention of cancer metastasis must be a major goal of cancer therapy since metastasis is the most insidious and life-threatening aspect of cancer.[2] 3D tumor organoid systems have been developed for cancer cell types. These complex, self-organizing structures are cultured forms of tumor cells embedded and growth supported by ECM Gel.

ECM Gel contains laminin as a major component, collagen type IV, heparan sulfate proteoglycan, entactin, and other minor components. ECM Gel undergoes thermally activated polymerization when brought to 20-40 °C to form a reconstituted basement membrane. The process of gelation is reversible. Addition of collagen type IV to ECM Gel increases polymerization, whereas, addition of collagen type I, fibronectin, or heparin, does not.[3] PC12 cells show neurite formation within 2 days when grown on a thin layer of ECM Gel.

Every mouse colony used for the production of this product is routinely screened for several pathogens. Tested and found negative for LDEV.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute Lyo ECM Gel 10 mL of ice-cold Endotoxin-free sterile water (W3500). Dispense Lyo ECM Gel to wells of a multi-well plate using cold pipettes. For a 96-well plate, use 50-100 µL/well. It is recommended to optimize for best working dilution factor before it is added to the plate. Dilution can be done with cell growth media. In cases the product turn gelatinous dilutions may help. Lyo ECM Gel will solidified within 5 minutes at 20 °C. Cells may be plated on top of a thin gel layer (0.5 mm) or cultured inside a 1 mm layer. It is recommended to plate cells with a density of 3-4 x 10^4 cells per mL. For prolonged manipulations, work should be conducted below 10 °C.

To dissociate cells from gel, use protease (dispase) diluted in PBS without calcium, magnesium, and EDTA, at a concentration of 0.6-2.4 units per mL.

Storage/Stability

Lyo ECM Gel is recommended to be reconstituted with 10 mL of ice-cold Endotoxin-free sterile water (W3500) for a final concentration as described in COA (8-12 mg/mL). Lyo ECM Gel can be storage at room temperature for up to 4 months. The reconstituted Lyo ECM Gel can be kept up to 7 days at 4 °C. During work it is recommended to keep the vial in ice or in a temperature under 10 °C.

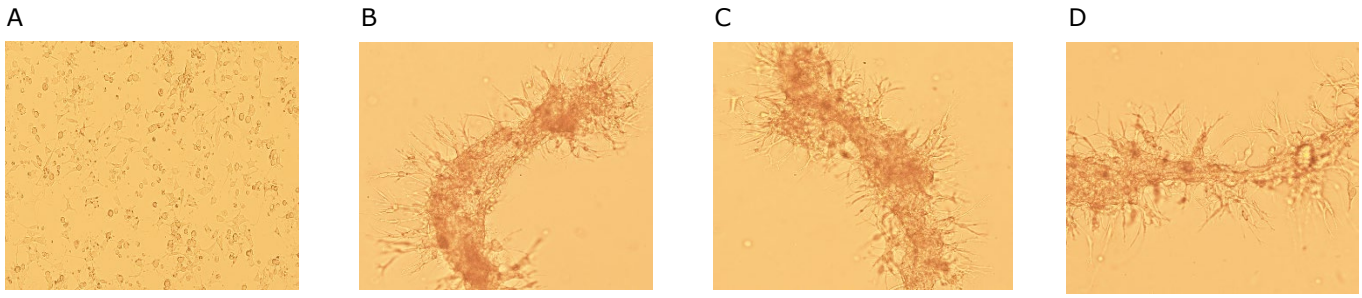

Figure 1. Differentiation of PC12 cells in ECM Gel. (**A**) PC12 alone without matrixes was used as a negative control. (**B**) PC12 neural cells were grown in 24-well plates on polymerized ECM Gel (E1270), (**C**) Lyo ECM Gel (E1272) or (**D**) competitor C for 48 hrs. After 48 hours differentiation neurite formation was detected in ECM gel conditions.

References

1. Kleinman, H.K. et al., in Molecular and Cellular Aspects of Basement Membranes, Rohrbach, D.H. and Timpl, R., Eds. Academic Press, (1993).
2. Mehlen P et al. Metastasis: a question of life or death. NATURE REVIEWS, CANCER (2006) pp449-458.
3. Carey, D.J. et al., J. Cell Biol., 102, 2254-2263, (1986).

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