Product Information

ECM Gel

from Engelbreth-Holm-Swarm Mouse Sarcoma

E1270
Storage temperature -20 °C.

Product Description

The major classes of molecules that regulate cellular development and function include growth and differentiation factors, cell adhesion molecules, and components of the extracellular matrix (ECM). The ECM is defined as all secreted molecules that are immobilized outside of cells. However, it is not always morphologically visible. The major constituents of the ECM include collagens, non-collagenous glycoproteins, and proteoglycans.

ECM was prepared to a protein concentration of 8-12 mg/mL (in DMEM). ECM gel contains laminin as a major component, collagen type IV, heparan sulfate proteoglycan, entactin, and other minor components. It is treated with chloroform to prevent aerobic and anaerobic microbial growth.

ECM gel will undergo 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.[2]

PC12 cells show neurite formation within 2 days when grown on a thin layer of ECM Gel.

Precautions and Disclaimer

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.

Storage/Stability

Store at –20 °C for long-term storage. ECM gel may be stored at 2-8 °C for up to 72 hrs.

Procedure

Thaw gel overnight at 2-8 °C before use. Dispense gel to wells of a multiwell plate using pipettes, plates, etc. pre-cooled to 2-8 °C. For a 96 well plate, use 50-100 µL/well. ECM gel also may be diluted up to 2-fold with cold (2-8 °C) Dulbecco's Modified Eagle's Medium. Dilution may help in cases in which the product is still gelatinous in the cold. Gel dilutions should be made before it is added to the plate. ECM gel will gel within 5 minutes at 20 °C. For prolonged manipulations, work should be conducted below 10 °C.

Cells may be plated on top of a thin gel layer (0.5 mm) or cultured inside a 1 mm layer. In the latter application, cells should be added to the gel prior to plating at a recommended density of $3\text{-}4 \times 10^4$ cells per mL.

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

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), pp. 309-326.
2. Carey, D.J. *et al*., *J. Cell Biol*., **102**, 2254-2263, (1986).

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