Basement Membrane Matrix, Growth Factor Reduced, Phenol Red-free

(For Organoid / 3D cell culturing)

Cat #: A-MGL03

Size: 5mL, 10mL

Storage: ≤-20°C

Product Description

Basement membranes are continuous sheets of specialized extracellular matrix that form an interface between endothelial, epithelial, muscle, or neuronal cells and their adjacent stroma. Basement membranes are degraded and regenerated during development and wound healing. They not only support cells and cell layers, but they also play an essential role in tissue organization that affects cell adhesion, migration, proliferation, and differentiation. Basement membranes provide major barriers to invasion by metastatic tumor cells.

Basement Membrane Matrix (GFR Phenol Red Free) is a soluble form of basement membrane purified from Engelbreth-Holm-Swarm (EHS) tumor. Basement Membrane Matrix (GFR Phenol Red Free) at 37°C to form a reconstituted basement membrane. The major components of Basement Membrane Matrix (GFR Phenol Red Free) include laminin, collagen IV, entactin, and heparin sulfate proteoglycan.

Intended Use

In addition to applications where Standard Basement Membrane Matrix can be used, It is suitable for research applications where the preparation of basement membrane is highly demanding, such as the study of signal optimization of tubular bone cells. It has also been used to study gene expression in primary mouse mammalian epithelial cells (reducing background signals induced by growth factors).

Product Parameter

1. Source: Mouse Tumor
2. Color: Phenol Red-containing Basement Membrane Matrix is yellow-pink, and Phenol Red-free Basement Membrane Matrix is translucent light yellow;
3. Form: standard Basement Membrane Matrix dissolved at 4°C, a transparent liquid state; High concentration Basement Membrane Matrix after 0°C solution, transparent liquid state, 4°C for a long time to show a semi-gel.
4. Concentration: Protein concentration ranges from 8 to 26 mg/mL
5. Endotoxin: ≤ 4.5 EU/mL
6. Gel time: 5-30 min gel at room temperature, the speed of gel formation is accelerated when the temperature is from 22°C to 37°C.

Material Qualifications

- Routine screening of mouse colony pathogens by mouse antibody product (MAP) tests
- Testing for bacteria, fungi and mycoplasma to ensure negative results
- Extensive PCR testing for a variety of pathogens including LDEV to ensure strict control of raw materials used in the production process
- Extraction from LDEV-free mouse tumor cells
- Gel stability testing at 37°C for 14 days
- Detection of endotoxin levels using serological methods
- Biological function verification of each lot (organoid culture and differentiation experiments; Subcutaneous tumor formation test; Stem cell culture; Angiogenesis experiment etc.)

Coating Procedures

Thaw Basement Membrane Matrix overnight at 2-8°C. Refrigerator temperatures may vary, therefore it is recommended to keep Basement Membrane Matrix on ice in a refrigerator during the thawing process. Thawed Basement Membrane Matrix solidifies quickly at temperatures above 15°C; when working with Basement Membrane Matrix, keep it on ice to prevent untimely gelling.

There are many applications for Basement Membrane Matrix which require different thicknesses and concentrations. A

thick gel is needed for applications such as endothelial cell formation of capillary-like structures (Tube Formation Assay), the differentiation of rat aorta tissue into capillary-like structures (Aortic Ring Assay), epithelial organoid formation, or tumor organoid formation. Some applications, such as propagation of primary cells, require a thin layer coating and not a thick gel; therefore, the thin layer method should be used.

Thick Gel Method:

1. Thaw Basement Membrane Matrix as stated above.
2. Mix Basement Membrane Matrix by slowly pipetting solution up and down; be careful not to introduce air bubbles.
3. Pipette 200-300 µL per cm^2 onto the growth surface.
4. Place coated object at 37°C for 30 minutes.
5. Coated objects are ready for use.

Thin Layer Method (non-gelling):

1. Thaw Basement Membrane Matrix as stated above.
2. Mix Basement Membrane Matrix by slowly pipetting solution up and down; be careful not to introduce air bubbles.
3. Dilute Basement Membrane Matrix to desired concentration in cold serum-free medium. A 1:100 dilution is recommended for the propagation of primary cells. Empirical determination of the optimal coating concentration for your application may be required.
4. Add a sufficient amount of solution to cover the entire growth surface area. A volume of 300 µL per cm^2 is recommended.
5. Incubate coated object at room temperature for one hour.
6. Aspirate coating solution and immediately plate cells. Do not allow coated surface to dry out.

Disclaimer

The reagent is only used in the field of scientific research, not suitable for clinical diagnosis or other purposes.