ISO9001 & ISO13485 & ISO11137

GelNest™ Matrix, for hESC Culture

Gel Concentration Inquiry: If the label on the bottle is lost, please click or copy the link below to your browser, and select "Related Reference Tools-> Certificates" to download the batch-specific COA.

https://www.nestscientificusa.com/product/detail/636882319776419840

Product overview

GelNest™ Matrix is prepared from basement membrane components extracted from mouse tumor tissues. The main components include laminin, type IV collagen , heparan sulfate proteoglycan, etc. These components can provide the support and signals required for cell adhesion, differentiation, and proliferation. They can also simulate the characteristics of the basement membrane in a physiological environment and improve the success rate and effect of cell culture.

In addition to basement membrane components, GelNest™ Matrix is also rich in a variety of growth factors. These growth factors can promote cell differentiation, proliferation, and migration, further mimicking cell signaling pathways and interactions in physiological environments. GelNest™ Matrix has a wide range of application prospects, especially in tissue engineering, cell culture and research. It can be used for research on organoid culture, stem cell differentiation, angiogenesis, migration or invasion, and *in vivo* tumorigenesis.

Product information

Product number	Product name	Packaging specifications
211272	GelNest™ Matrix, for hESC Culture, LDEV-Free	Bag Package, 5 mL/bottle, 1 bottle/bag

Product parameters

Source	Mouse tumor tissue basement membrane components
Formulation	With phenol red. Optimized for human embryonic stem cell culture.
Protein concentration	See label, or please download the COA from our official website to obtain a lot-specific concentration.
Appearance	GelNest™ Matrix is liquid at 4°C but forms a gel at 37°C. Phenol red-containing gel appears bright yellow when frozen, and red at temperatures above 0° C.
Applications	Validated with ESC culture experiment. Suitable for feeder-free hESC and iPSC culture.
Storage and shelf life	Store in a refrigerator at -20°C (frost-free function off) or a -80°C freezer for up to 2 years. It is recommended to aliquot the thawed product into single-use portions and store it in -20°C or -80°C for up to 2 years.
Precautions	GelNest™ Matrix will start to solidify when the temperature is higher than 10°C. Please try to operate on ice as much as possible, and it is recommended to pre-cool the consumables that directly contact the gel, such as pipette tips.

Experimental procedures

Please determine the specific experimental steps based on cell types, culture conditions, and application experience.

Feeder-free culture of human embryonic stem cells (hESCs) and induced pluripotent stem cells (iPSCs)

1. Take the GelNest™ Matrix from frozen storage and thaw in an ice bath at 4°C overnight. Use a pre-cooled pipette tip to slowly pipette the matrix gel 3 times to mix. Use pre-cooled pipette tips to aliquot the thawed matrix gel. If bubbles form, briefly centrifuge the aliquoted matrix gel using a handheld centrifuge to remove bubbles.
2. Place the cell culture plate in the 37°C incubator to preheat.
3. Dilute the matrix gel solution at a ratio of 1:100 with serum-free medium that is pre-cooled at 4°C, and completely cover the culture plate with the matrix gel diluent. It is recommended to use 300μL/cm^2 of matrix gel diluent in a culture dish.

4. Allow the culture plate containing the diluted matrix gel to sit at room temperature for 1 hour.

5. Remove the remaining matrix gel diluent and immediately seed the stem cells with premixed mTeSR solution onto the culture plate. Be careful not to let the modified culture plate surface dry out.

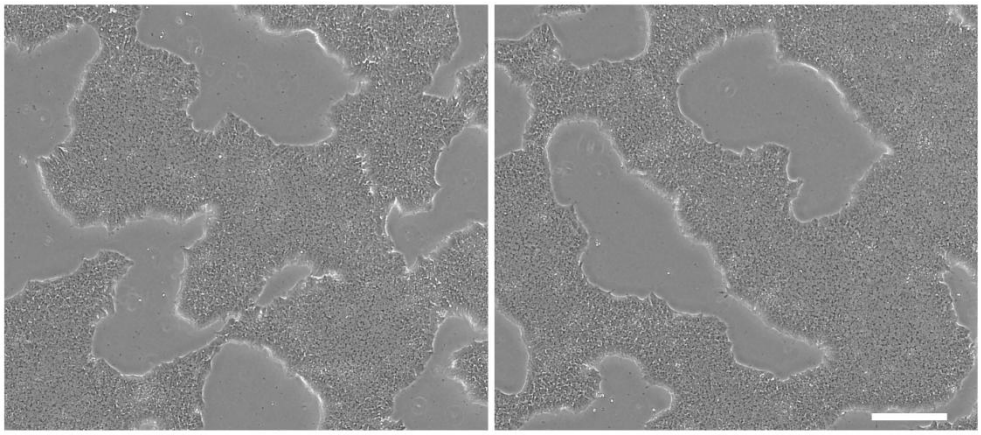

Figure 1. Results of hESC grown for 3 days on dishes coated with Brand C matrix gel (left) and GelNest™ Matrix gel (right). Scale bar is 300μm.

Safety recommendations and limitations

Please follow good laboratory safety practices.

For research use only. Not intended for diagnostic or therapeutic purposes. Contains ingredients of animal origin.

Technical support and contact information

For FAQ, GelNest™ Matrix Selection Guide, Quality Assurance COA/COC or other technical support and product issues, please refer to our website or use the following contact information.

Production and after-sales service unit: Wuxi NEST Biotechnology Co., Ltd.

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