

## GelNest™ Matrix, for Organoid Culture, Phenol Red-Free

**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
211282	GelNest™ Matrix, for Organoid Culture, Phenol Red-Free, LDEV-Free	Bag Package, 5 mL/bottle, 1 bottle/bag
211281	GelNest™ Matrix, for Organoid Culture,	Bag Package, 5 mL/bottle, 2

	Phenol Red-Free, LDEV-Free	bottle/bag
211382	GelNest™ Matrix, for Organoid Culture, Phenol Red-Free, LDEV-Free, Ultra-low Endotoxin	Bag Package, 5 mL/bottle, 1 bottle/bag

## Product parameters

<b>Source</b>	Mouse tumor tissue basement membrane components
<b>Formulation</b>	Without phenol red. Optimized for organoid culture.
<b>Protein concentration</b>	See label, or please download the COA from our official website to obtain a lot-specific concentration.
<b>Appearance</b>	GelNest™ Matrix is liquid at 4°C but forms a gel at 37°C.
<b>Applications</b>	Validated with organoid culture experiment. Suitable for organoid development, cultivation and differentiation.
<b>Storage and shelf life</b>	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.
<b>Precautions</b>	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.

### Organoid culture

1. Re-suspend the single cell suspension used for organoid culture in pre-cooled basal medium at 4°C, and count the cells.
2. Mix GelNest™ Matrix with the cells (dilution factor < 70% recommended) and add the mixture to a preheated 24-well plate, each well containing approximately  $5 \times 10^4$  cells and 60µL of the matrix gel.

3. Immediately place the well plate into the incubator. After about 10 minutes, the matrix gel will solidify.
4. Add 500 $\mu$ L of organoid culture medium for culture.
5. Wait 3-5 days for the organoids to form. Finally, the sensitivity of organoids to various drugs can be determined by imaging live cells through high-content microscopy.

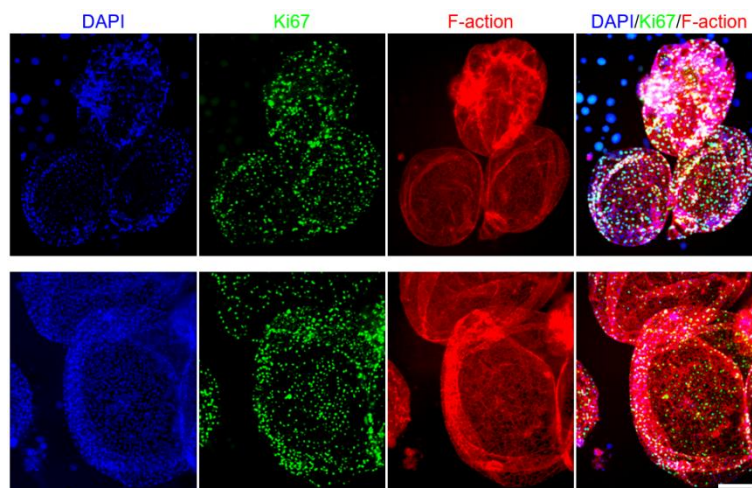


Figure 1. Growth of human cholangiocarcinoma organoids in Brand C (top) and GelNest™ matrix gel (bottom) for 6 days. Scale bar represents 200 $\mu$ m.

### 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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