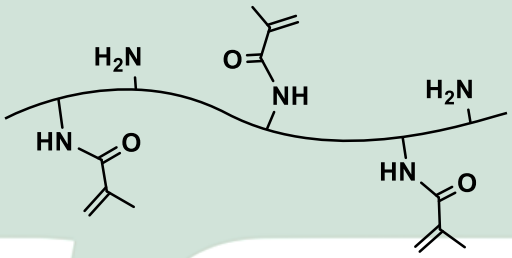
Gelatin Methacryloyl（GelMA）

Product component

Item	character	Package Size	备注
A： GelMA	White spongy	1 g/bottle	Keep in dark
B： Photoinitiator LAP	White powder	0.05 g/bottle	

This instruction applies to EFL-GM-30/60/90



GelMA molecular structure

Product introduction

Gelatin Methacryloyl (GelMA) can be quickly photo-crosslinked into hydrogel through UV and visible light in the presence of photoinitiator. GelMA hydrogel combines the characteristics of both natural and synthetic biomaterials. With the three-dimensional (3D) structure, it is suitable for cell growth and differentiation. GelMA hydrogel has excellent biocompatibility and cell-responsive properties, such as providing suitable cell adhesion sites and proteolytic degradability. Therefore, it often is used as a replacement for artificial basement membranes or other natural collagen hydrogels. In addition, GelMA hydrogel also has good mechanical properties.

Applications

Cell culture, bio 3D printing, tissue engineering, etc.

Storage

Dry kit： room temperature, 3 months; 4℃, 12 months; -20℃, 18 months. **Sterile solution**：4°C (in dark), 7 days; -20℃ (in dark), 6 months. **Please note that repeated freezing and thawing of the solution will affect the performance of the product, so it is best to prepare it when using it.**

Period of validity

The date of manufacture is shown in the package。

Tel: +86-0512-66958483
Address: Room 2202, Building 2, No.888 South Zhujiang Road, Wuzhong District, Suzhou City, China

Solution preparation

1. Prepare 0.25% (w/v) standard solution of initiator

(1) Add 20ml PBS into the brown bottle containing initiator LAP (containing 0.05g LAP);

(2) Heat and dissolve the solution in a water bath at 40-50℃ for 15 minutes, shaking several times.

The LAP standard solution can be stored for 12 months at 4°C in dark.

2. Prepare GelMA solution (5-30% (w/v) is recommended)

(1) Take the required mass of GelMA into the centrifugal tube;

(2) Add the initiator standard solution into the centrifuge tube, and shake to fully infiltrate the GelMA.;

(3) Heat and dissolve the tube in a 60-70℃ water bath for 20-30 minutes, protected from light, shaking several times;

(4) Sterilize the GelMA solution immediately with a 0.22μm sterile needle filter (to prevent gelation at low temperatures).

Suggestions for 2D cell culture

- Keep GelMA solution at 37℃ water bath protected from light (to prevent cryoablation);
- Inject GelMA solution into the well plate immediately;

(96-well plate: 50-100 μL/ well, 48-well plate: 100-300 μL/ well, 24-well plate: 300-500 μL/ well)

- Irradiate the wells with 405 nm light for 10-30 seconds to gelate, the gel strength can be adjusted by the time and intensity of the light;
- Add medium to the wells to cover the gel. Place the well plate in a 37℃ incubator for 5 minutes. And then wash the sample and remove the medium;
- Add the cell suspension to the well plate. Change medium, observe, and photograph according to experimental design. (No special requirements for operation procedures).

Suggestions for 3D cell culture

- Cells were collected and resuspended in pre-warmed GelMA solution at 37℃ to prepare the cell suspension;
- Add cell suspension into the well plates;

(96-well plate: 50-100 μL/ well, 48-well plate: 100-300 μL/ well, 24-well plate: 300-500 μL/ well)

- Irradiate the wells with 405 nm light for 10-30 seconds to gelate, the gel strength can be adjusted by the time and intensity of the light;
- Add medium to the wells. Place the plate in a 37℃ incubator for 5 minutes. And then wash the sample and remove the medium;
- Add fresh medium and incubate for a long time. Change medium, observe, and photograph according to experimental design. (No special requirements for operation procedures).

Tips: Do not look directly at the light source.

Scan the QR code on the right for more information

WeChat Tencent

Tel: +86-0512-66958483
Address: Room 2202, Building 2, No.888 South Zhujiang Road, Wuzhong District, Suzhou City, China