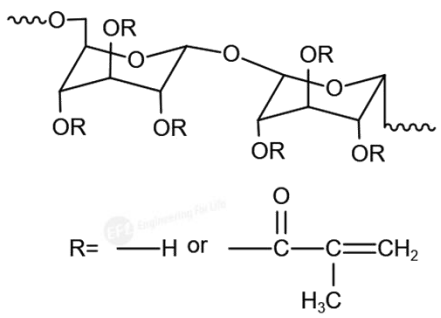
Dextran Methacryloyl（DexMA）

Product component

Item	Character	Package Size	Notes
A：DexMA	White spongy	1g/bottle	Keep in the dark
B：Photoinitiator LAP	White powder	0.05g/bottle	

This instruction applies to EFL–DexMA



DexMA molecular structure

Product introduction

Dextran methacryloyl (DexMA) is a double bond modified dextran, which can be rapidly crosslinked into a gel via UV or visible light in the presence of a photoinitiator. Due to the excellent water solubility, good biosafety and anti-nonspecific protein adsorption properties of DexMA, DexMA–based material systems have been widely used in biomedical fields, such as reducing thrombosis in blood vessels, reducing blood viscosity and drug delivery.

Applications

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

Storage

Dry kit： room temperature, 3 months; 4℃, 12 months; −20℃, 18 months. **Sterile solution**： 4°C (in the dark), 7 days ; −20℃ (in the 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.

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 the dark.

2. Prepare DexMA solution (5–15% (w/v) is recommended)

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

(2) Add the initiator standard solution into the centrifuge tube;

(3) Dissolve at room temperature in the dark for 30 minutes, shaking several times during the period;

(4) Sterilize the DexMA solution with a 0.22μm sterile needle filter, and keep in the dark.

Suggestions for 2D cell culture

- Inject DexMA solution into the well plate immediately;
  (96–well plate: 50–100μL/well, 48–well plate: 100–300μL/well, 24–well plate: 300–500μL/well);
- Irradiate the wells with 405nm 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

- Collect cells and resuspend them in DexMA solution to prepare the cell suspension;
- Add cell suspension into the well plates;
  (96–well plate: 50–100μL/well, 48–well plate: 100–300μL/well, 24–well plate: 300–500μL/well)
- Irradiate the wells with 405nm 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.