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Directions for Use
PhotoSericin®-RUT Methacrylated Sericin Kit

SERICIN METHACRYLATE WITH RUTHENIUM KIT FOR PHOTOCROSSLINKABLE HYDROGELS
Catalog Number **#5432-1KIT**

Product Description

Advanced BioMatrix offers PhotoSericin®, a purified sericin methacrylate kit, which provides 3D sericin gels with the unique attributes to be prepared at various concentrations and photocrosslinked to provide various gel stiffness.

The PhotoSericin® RUT kit consists of sericin methacrylate and a visible light photoinitiator.

Table 1:

Item	Catalog No.	Package Size
Methacrylated Sericin, Lyophilized	5430	1 gram
Photoinitiator Ruthenium	5246-100MG	100 mg
Photoinitiator Sodium Persulfate	5247-500MG	500 mg

Our Sericin Methacrylate achieves a degree of substitution 5-20% for maximum crosslinking and range of stiffness.

The photoinitiator solution consists of Ruthenium and Sodium Persulfate which needs to be formulated in 1X PBS or cell culture media, allowing for visible light photocrosslinking of the sericin at 400-450 nm.

Storage/Stability:

The product ships on frozen gel packs. Upon receipt, store the sericin methacrylate at -20°C. Store the ruthenium and sodium persulfate at room temperature.

Preparation Instructions

Note: Employ aseptic practices to maintain the sterility of the product throughout the preparation and handling of the sericin and other solutions.

Note: The following instructions are for a 10% sericin methacrylate solution. Recommended concentrations are 10-30%

1. Add the 10 mL's of 1X PBS to the amber vial containing 1 gram of lyophilized sericin methacrylate.

2. Gently mix on a shaker table or rotator plate until fully solubilized. Avoid vortexing as to avoid bubbles. Mixing may be done warm (>37°C) or at room temperature (20-22°C).

3. Calculate the volume of photoinitiator to add by multiplying the volume of solubilized sericin by 0.02. If the resulting number is 200 µl, for example, you will add 200 µl of ruthenium and 200 µl of sodium persulfate.

4. Solubilize the required amount of ruthenium (per step 3) at a concentration of 37.4 mg/ml in 1X PBS or cell culture media. Photoinitiator can be sterilized through a 0.2um button filter.

5. Solubilize the required amount of sodium persulfate (per step 3) at a concentration of 119 mg/ml in 1X PBS or cell culture media. Photoinitiator can be sterilized through a 0.2um button filter.

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6. Add the ruthenium to the sericin solution and fully mix until solution is homogeneous.

7. Add the sodium persulfate to the sericin/ruthenium solution and mix until solution is homogeneous.

8. Dispense your sericin/photoinitiator/cell solution into the desired dish (ie. 6-well plate, 48-well plate).

9. For photocrosslinking, place printed structure directly under a 400-450 nm visible light crosslinking source.

Any excess material can be refrigerated and stored. Long term shelf-life studies are in process. We recommend only adding photoinitiator to the amount of sericin to be used at that time.