

## HyStem<sup>®</sup>-IRG QuickSet Kit

UV CROSSLINKABLE HYSTEM KIT, 7.5 ML  
Catalog Number #GS1008

### OVERVIEW

The HyStem-IRG QuickSet Kit is composed of Glycosil<sup>®</sup> (thiolmodified hyaluronic acid), Gelin-S<sup>®</sup> (thiol-modified gelatin), PEGCure (PEG-norbornene) and Irgacure 2959 Photoinitiator for photoinitiation. A transparent hydrogel forms after contents are mixed and exposed to UV light (365 nm). All vials are packaged as sterile lyophilized solids that are blanketed by argon and under a slight vacuum.

### STORAGE

**Glycosil and Gelin-S:** Store Glycosil and Gelin-S in their original vials at -20°C for up to one year. Do not uncap the Glycosil and Gelin-S vials as both materials will crosslink in the presence of oxygen.

**PEGCure:** Store PEGCure unopened in its original vial at -20°C for up to one year. Reconstituted PEGCure can be stored at -20°C for up to one month.

**Photoinitiator Irgacure:** Keep the container tightly closed in a cool, well ventilated place. Avoid long-term exposure to light. Reconstituted Irgacure can be stored at -20°C for up to one month.

**DG Water:** Store DG Water in the original vial, unopened, at 15 to 30°C for up to one year. DG Water is air-sensitive and is sealed under inert conditions. Do not uncap the DG Water vial to avoid absorption of atmospheric gas. Puncture the rubber seal using a syringe and needle to transfer DG Water from the vial.

### INSTRUCTIONS FOR USE

The Irgacure solution is prepared by dissolving the lyophilized solid in DG Water. The Glycosil, Gelin-S, and PEGCure are reconstituted with the Photoinitiator solution. A 7.5 mL hydrogel at 1% (w/v) solution is produced when all reconstituted materials are mixed.

**HyStem hydrogels (3 x 2.5 mL = 7.5 mL) should be prepared as follows:**

1. Allow Glycosil, Gelin-S, PEGCure, irgacure, and DG Water vials to come to room temperature.
2. Under aseptic conditions, use a syringe to add 10.0 mL of DG Water to the Irgacure Photoinitiator vial. Shake or vortex the vial at 37°C for 30 minutes or until fully dissolved.
3. Add 1.0 mL of the reconstituted Photoinitiator to the Glycosil vial. Add 1.0 mL of the Photoinitiator solution to the Gelin-S vial.
4. Place both vials horizontally on a rocker or shaker. Shake vials at 37°C for 30 minutes or until fully dissolved. It may take up to 60 minutes for the solids to fully dissolve. Solutions should be clear and slightly viscous.
5. Add 0.5 mL of Photoinitiator to the PEGCure vial. Place on a shaker and mix at 37°C for approximately 10 minutes.
6. Combine the Glycosil, Gelin-S, and PEGCure solutions and mix well.
7. Pipette solution into desired format (i.e. 96 well plate). Using a hand-held UV light source, expose the gel to the UV light (wavelength 365nm) until the gel reaches the desired stiffness. Gelation will occur between 15 seconds and 1 minute. Results may vary depending on the UV source manufacturer and/or plate design

**Note:** Gelation time and gel stiffness can be adjusted by varying the concentration of Glycosil, GelinS, or UVlink.

**Note:** Each kit component has been manufactured under aseptic conditions and tested for bacteria and fungus.