HyStem®-HP 12.5 mL Kit

THIOL-MODIFIED HYALURONAN, GELATIN AND HEPARIN HYDROGEL KIT

Catalog Number **#GS1006**

OVERVIEW

The HyStem-HP Hydrogel Kit is composed of Heprasil® (thiol-modified sodium hyaluronate with thiolmodified heparin), Gelin-S® (thiol-modified gelatin), Extralink® (PEGDA, polyethylene glycol diacrylate), and degassed deionized water (DG Water). Solutions of Heprasil and Gelin-S form a transparent hydrogel when mixed with Extralink. All lyophilized solids are blanketed by nitrogen and under a slight vacuum.

STORAGE

Heprasil and Gelin-S: Store Heprasil and Gelin-S in original vials at -20°C for up to one year. Do not uncap the Heprasil and Gelin-S vials since both materials will crosslink in the presence of oxygen. Use a syringe to add DG Water and remove product from the vials.

Extralink: Store Extralink in the original vial at -20°C for up to one year. Reconstituted solutions can be stored at -20°C for ~ one month.

Note: It is recommended to reconstitute each vial in its entirety.

INSTRUCTIONS FOR USE

Heprasil, Gelin-S and Extralink solutions are prepared by dissolving the lyophilized solids in the DG Water. When reconstituted, the three materials will be in 1x phosphate buffered saline (PBS), pH ~7.4. Heprasil and Gelin-S vials contain 50 mg of material each and when reconstituted according to instruction will produce a 1% (w/v) solution. Extralink vials contain 25 mg of diacrylated PEG and when reconstituted according to instructions will produce a ~1% (w/v) solution. HyStem-HP hydrogels (12 mL) should be prepared in the following manner:

1. Allow the Heprasil, Gelin-S, Extralink, and DG Water vials to come to room temperature.
2. Under aseptic conditions and using a syringe add 5.0 mL of DG Water to the Heprasil vial. Repeat for the Gelin-S vial.
3. Place both vials horizontally on a rocker or shaker. It will take ~40 minutes for the solids to fully dissolve. Warming to not more than 37°C and/or gentle vortexing will speed dissolution. Solutions will be clear and slightly viscous.
4. Under aseptic conditions and using a syringe add 2.5 mL of DG Water to the Extralink vial. Invert several times to dissolve.
5. As soon as possible, but within 2 hours of making the solutions, mix equal volumes of Heprasil and Gelin-S. To mix, pipette back and forth to mix.
6. If encapsulating cells, resuspend cell pellet in 10 mL of Heprasil + Gelin-S. Pipette back and forth to mix.
7. To form the hydrogel, add Extralink to the Heprasil + Gelin-S mix in a 1:4 volume ratio (2.5 mL Extralink to 10 mL (Heprasil + Gelin-S) mix by pipette.
8. If encapsulating cells, allow solution to react for 10 minutes then mix again by pipette to ensure even distribution of cells.
9. Gelation will occur within ~30 minutes.