ADVANCED BIOMATRIX
A BICO COMPANY

Heprasil®

THIOL-MODIFIED HYALURONAN AND HEPARIN
Catalog Number: **#GS217F-5EA** #**GS215F-2EA**

OVERVIEW

Heprasil® is based on cross-linking thiol-modified hyaluronan technology and is a component of the HyStem-HP® hydrogel kits. Hyaluronic acid is a naturally occurring component of the extracellular matrix found in connective, epithelial, and neural tissues. Heprasil® is used in conjunction with Gelin-S® or ECM proteins such as laminin, collagen, or fibronectin for most 3-D cell culture and tissue-engineering applications. A 3D hydrogel can be formed when Heprasil® is mixed with Extralink® or Extralink®-Lite.

#GS217F-5EA	# of Units	Material Amount Per Vial	Reconstitution Volume Per Vial
Heprasil – GS217F	5	10 mg	1.0 mL
Buffer A – GS260F	1	10 mL	-

#GS215F-2EA	# of Units	Material Amount Per Vial	Reconstitution Volume Per Vial
Heprasil – GS215F	2	50 mg	5.0 mL
Buffer A – GS260F	1	10 mL	-

CELL ATTACHMENT

The HyStem® hydrogel system provides a viscoelastic matrix of variable rigidity that supports the expansion of stem cells (human embryonic, CD34+, and hepatic progenitors have been tested to date). Heprasil® hydrogels DO NOT support surface cell attachment. Cells must be encapsulated within the hydrogel. Extracellular matrix (ECM) proteins or peptides may be mixed with the Heprasil® prior to crosslinking to provide attachment signals and allow for cells to be plated on the hydrogel surface. However, the type of ECM protein added depends upon the cell type and the desired outcome (expansion without differentiation or with differentiation). Hystem®-C and Hystem®-HP kits support cell attachment and can be found at AdvancedBioMatrix.com

STORAGE

Heprasil®: Store at -20 or 4°C for up to one year. Reconstituted solutions must be used same day and cannot be refrozen.

INSTRUCTIONS FOR USE

Heprasil solutions are prepared by dissolving the lyophilized solids with BUFFER A. When reconstituted following the directions below, Heprasil will be in 1X phosphate buffered saline (PBS) at a pH of ~7.4. Deviation from reconstitution directions may result in a lower or higher ending pH.

1) Allow Heprasil® to come to room temperature.

2) Under aseptic conditions, using a syringe and needle, add Buffer A to Heprasil. Follow reconstitution chart below. If vial stopper is removed during reconstitution, minimize exposure to oxygen to avoid potential auto-crosslinking. **DO NOT WEIGH OUT COMPONENTS OR USE ANOTHER BUFFER DURING RECONSITUTION.**

Kit Components	DG Water to Add Per Vial
Heprasil – GS217F	1.0 mL of Buffer A
Heprasil – GS215F	5.0 mL of Buffer A

3) Immediately vortex each vial for a few seconds after the addition of Buffer A. Place vials horizontally on a rocker or shaker. Quickly vortex samples every 15 minutes. It may take 1 hour for some components to fully dissolve. Warming to 37 °C and gently vortexing will speed dissolution. Components will be clear and slightly viscous.

4) A 3D hydrogel is formed when Extralink-Lite or Extralink is added to Heprasil in a 1:4 volume ratio. E.g., 0.25 mL of Extralink-Lite or Extralink to 1.0 mL of Heprasil.

5) Mix components together by pipette.

6) If encapsulating cells, resuspend cell pellet in Heprasil solution *prior* to the addition of Extralink-Lite or Extralink. Pipette back and forth to mix.

7) After mixing all components together, wait for 5 minutes, then mix again by pipette to ensure even distribution of cells.

8) Dispense into desired well-plate. Gelation will begin within ~10 minutes and full gelation will occur by ~90 min.

Additional Hystem® information, white papers, applications, references, and certificates, can be found by our visiting at www.AdvancedBioMatrix.com