



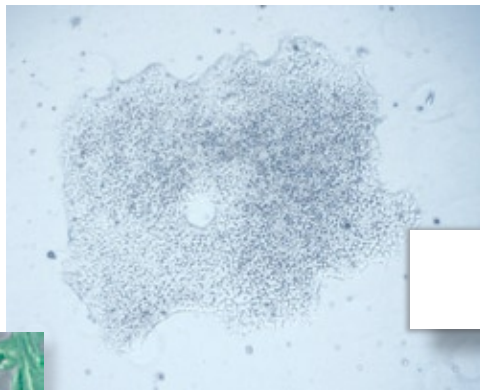
## For Animal-Free Stem Cell Culture

**Animal-free HyStem is a fully-defined matrix allowing the user to customize a stem cell niche.** The key HyStem feature is *complete control over matrix characteristics, such as changing hydrogel stiffness and adding user-supplied ECM proteins and growth factors.* The tailored HyStem can then be used to coat a plate or encapsulate cells. Human mesenchymal stem cells, human cord blood derived CD34+ stem cells, human fetal hepatic progenitor cells, human embryonic stem cells, and rabbit mesenchymal stem cells have all been successfully cultivated in HyStem-based hydrogels.

HyStem consists of a hyaluronan-based, synthetic matrix. The material is ready for cell culture in three simple steps - reconstitute, mix, and use. HyStem will gel at room temperature within 30 minutes with no low temperature or low pH steps in its preparation. If needed, Gelin-S (thiol-modified denatured collagen) can be purchased for use as a positive control of cell attachment.

HyStem is suitable for *in vivo* experimentation as well as *in vitro* stem cell culture.

Human ESCs grown on HyStem™ with added attachment factors (Courtesy of Linda Kelley, University of Utah)

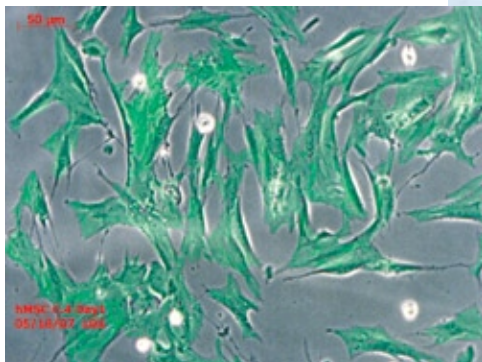


Hyaluronan-Based Hydrogel

Excellent Lot-to-Lot Consistency

User-Controlled Stiffness and Composition

Suitable for *in Vitro* and *in Vivo* Experimentation



Human MSCs grown on HyStem™ and Gelin™-S (courtesy of Linda Kelley, University of Utah)

## Advantages

Synthetic

Animal Free