

KSOM^{AA} & FHM - Mouse Embryo Media

Liquid

CytoSpring

320 Logue Ave, Ste 140
Mountain View, CA 94043
Email: info@cytospring.com
Tel/Fax 650-988-6699
cytospring.com

Product Information

Background To improve the development of mouse preimplantation embryos in vitro, several media have been developed following Simplex optimization, a simple computer-optimization algorithm^{1,2}. KSOM is one among them with further modification³. Studies have indicated that addition of both essential and non-essential amino acids to KSOM further augments embryo development in vitro, as compared to that supported by KSOM without amino acids⁴, leading to the development of KSOM^{AA}. This augmentation is observed to be associated with increased rate of development to the blastocyst stage, increased frequency of hatching, and increased number of cells in the blastocysts^{4,5}. Overall the analyses lead to a conclusion that KSOM^{AA} provides an environment in which preimplantation mouse embryos can undergo development that is similar to that occurring in vivo⁵.

With a function similar to M2, the FHM medium is a modification of KSOM where part of bicarbonate is replaced with HEPES buffer. FHM is typically used as an embryo medium for washing and handling embryos outside the CO2 incubators.

Storage Product is prepared fresh and shipped on pre-chilled ice packs. Upon receiving, use within two weeks; or, aliquot immediately and store at – 20° to – 80° C and use within 2 months. Frozen stock, once thawed, has a shelf life of 2 weeks. Thawed medium must be stored at 2°C to 8°C between uses. Thawed medium stored beyond this recommended period may not perform optimally.

Product Please refer to our website for lists of KSOM^{AA} and FHM that CytoSpring carries. All products are sterile-filtered through a 0.2 µm filter. All products contain penicillin (60mg/L) and streptomycin (50mg/L) and are ready to use. *Please note: due to filtration the final volume can be 2 to 4ml less than initially prepared.*

Reference

1. Spendley W., Hext G.R., Himsforth F.R. Sequential application of simplex designs in optimization and evolutionary operation. *Technometrics* 1962, 4:441- 461.
2. Walters F.H., Parker L.R. Jr., Morgan S.L. et al. *Sequential Simplex Optimization*. CRC Press. Boca Raton 1991, pp. 1–325.
3. Lawitts J.A., Biggers J.D. Culture of preimplantation embryos. *Methods in Enzymology* 1993, 225:153–164.
4. Biggers J.D., McGinnis L.K., Raffin M. Amino acids and preimplantation development of the mouse in protein-free potassium simplex optimized medium. *Biology of Reproduction* 2000, 63:281–293.
5. Ho V., Wigglesworth K., Eppig J.J. et al. Preimplantation development of mouse embryos in KSOM: augmentation by amino acids and analysis of gene expression. *Molecular Reproduction and Development* 1995, 41:232–238.