Biological Industries

Foetal Bovine Serum-Qualified for Human Embryonic Stem (ES) Cells

• EDQM Certified • ISO 13485 • CE Certified

Product Name	Catalogue No.	Unit Size	Storage Temp.
Certified Foetal Bovine Serum (FBS) Qualified for Human EmbryonicStem Cells	04-002-1A	500ml	-20ºC
	04-002-1B	100ml	-20ºC
Certified Foetal Bovine Serum (FBS) Qualified for Human Embryonic Stem Cells Heat Inactivated	04-222-1A	500ml	-20ºC
	04-222-1B	100ml	-20ºC

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Recommended Applications

For proliferation and differentiation of pluripotent embryonic stem cells. Based on high growth promotion parameters and lack of toxicity in highly sensitive human embryonic cell lines, this product is also recommended for sensitive mouse embryonic stem cells, human adult stem and primary cells.

In order to maintain highly viable stem cells in culture, high concentrations of growth factors, hormones and other growth stimulating additives are needed. To provide growth factors in constant concentrations, the FBS must be tested.

Foetal Bovine Serum, tested on human embryonic stem cells, is specifically tested for the ability to sustain undifferentiated cellular morphology of embryonic stem cells. Only suitable batches are selected and kept for stem research clients. Screening FBS batches for Biological Industries is performed at the Technion Institute of Technology in the Human Embryonic Stem Cells Laboratory of Prof. Joseph Itskovitz-Eldor M.D., D.Sc.,Faculty of Medicine-Stem Cells Research Center in Israel. The group at the Technion has extensive experience in the derivation and maintenance of human ES cell lines, their sub-clones and in their in vitro differentiation procedures.

To meet acceptance criteria, the cells are cultured with MEFs as feeder layer for at least four passages during which the following parameters are measured:

Colony Morphology. The colony morphology of the undifferentiated cells is expected to remain similar to that of cells cultured with the control medium, namely round colonies with clear borders and determined by direct observation (see Figures 4&5).
Plating Efficiency. The accepted cloning efficiency should be in the expected range which is normal for hESCs cultured with FBS and
measured by counting surviving colonies (Amit et al., Dev Biol, 2000).

Background Differentiation rates determined by morphology and determined by FACS analysis for SSEA4 for pluripotency markers.

Advantages

Only pre-screened and only those FBS batches selected that can provide the different growth factors necessary for stem cells growth promotion Selected FBS batches tested for consistent quality to insure batch to batch consistency.

Promote the formation of aggregates known as embryoid bodies, important intermediates for further differentiation into neuronal or hematopoietic progenitors.