

DA3564**Bovine Endothelial Cell Growth Factor (ECGFpro2) (For cultivation of lymphatic endothelial cells, LEC)****Quantity:**

6 mg

Background:

Endothelial cell growth factor (ECGF) is an extract of bovine brain containing growth promoting factors for vascular endothelial cells of mammalian origin. Endothelial cell growth factor is prepared using a modification of the method of Maciag, et al. (1979). ECGFpro2 is supplemented with recombinant human VEGF-C (corresponding to 50 ng/ml) a concentration sufficient for the cultivation of lymphatic endothelial cells.

Lymphatic endothelial cells from human skin can be established as primary cultures by traditional methods. The serial propagation of these cells has proved to be difficult. The long-term propagation of these cells in vitro can be achieved with an extract prepared from bovine brain. The introduction of a fibronectin or collagen matrix to the cell culture system allows cultivating endothelial cells at clonal densities. With ECGF, the FCS requirement can be reduced. Heparin potentiates the mitogenic activity of crude preparations of ECGF. ECGF has also been reported to eliminate the need for feeder cells in the clonal growth of hybridomas and other cell types.

Source:

Brain (BSE Free tested)

Format:**State:** Lyophilized, Freeze dried powder (Crude extract)**Buffer System:** H₂O**Preservatives:** None

Reconstitution: Endothelial cell growth factor is supplied as a sterile lyophilized powder containing 6 mg protein per vial. To obtain a stock solution reconstitute the contents of the vial in 2 ml of prewarmed (37°C) sterile PBS or water. Gently rotate the vial until the contents are dissolved. This stock solution may be further diluted in sterile tissue culture media to obtain the desired working concentrations. Although the stock solution can be added aseptically to sterile tissue culture medium, it is recommended that medium containing diluted product is aseptically filtered prior to use.

The ECGF + VEGF-C are sufficient for 500 ml growth medium.

Applications:

Biological activity/ Working concentration: Optimum concentration for human umbilical vein endothelial cells (HUVEC) range from 50-200 µg/ml, optimal concentration with heparin (30 µg/ml) is about 12 µg/ml.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Description:

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The ECGF + VEGF-C are sufficient for 500 ml growth medium.

Species specificity: Bovine ECGFpro2 is effective on Mouse, Bovine and Human cells.

Storage:

Prior to reconstitution store at 2-8°C.
Following reconstitution store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:

1. Maciag T, Hoover GA, Weinstein R. High and low molecular weight forms of endothelial cell growth factor. *J Biol Chem.* 1982 May 25;257(10):5333-6. PubMed PMID: 7068593.
2. Olander J (1980) *In Vitro* 6:209.
3. Folkman J, Haudenschild C. Angiogenesis in vitro. *Nature.* 1980 Dec 11;288(5791):551-6. PubMed PMID: 6160403.
4. Evans CH, DiPaolo JA. Equivalency of endothelial cell growth supplement to irradiated feeder cells in carcinogen-induced morphologic transformation of Syrian hamster embryo cells. *J Natl Cancer Inst.* 1982 Jan;68(1):127-31. PubMed PMID: 6275157.
5. Pintus C, Ransom JH, Evans CH. Endothelial cell growth supplement: a cell cloning factor that promotes the growth of monoclonal antibody producing hybridoma cells. *J Immunol Methods.* 1983 Jul 15;61(2):195-200. PubMed PMID: 6863945.
6. Maciag T (1979) *PNAS* 6:5674.
7. Thornton SC, Mueller SN, Levine EM. Human endothelial cells: use of heparin in cloning and long-term serial cultivation. *Science.* 1983 Nov 11;222(4624):623-5. PubMed PMID: 6635659.
8. Ransom JH. Endothelial cell growth supplements for promoting the growth of monoclonal antibody-producing hybridoma cells. *Methods Enzymol.* 1986;121:293-5. PubMed PMID: 3724467.
9. Schniedermann J, Rennecke M, Buttler K, Richter G, Städtler AM, Norgall S, et al. Mouse lung contains endothelial progenitors with high capacity to form blood and lymphatic vessels. *BMC Cell Biol.* 2010 Jul 1;11:50. doi: 10.1186/1471-2121-11-50. PubMed PMID: 20594323.