

Active Recombinant Human HBEGF

Cat. No. HBEGF-8325H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Human HBEGF was expressed in Sf 21 Insect Cells.
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Species	Human
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Source	Sf21 Cells
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Description	Heparin-binding EGF-like growth factor (HB-EGF), also known as DTR and DTS, is a heparin binding, O-glycosylated protein and a member of the EGF family of proteins. It is a potent mitogen and chemoattractant for vascular smooth muscle cells, fibroblasts and epithelial cells but not endothelial cells. HB-EGF is synthesized as a membrane-anchored precursor that is proteolytically cleaved to release the soluble mature growth factor. The two forms are active as juxtacrine and paracrine/autocrine growth factors respectively. HB-EGF activates two EGF receptor subtypes, HER1/ErbB1 and HER4 and binds to heparin sulfate proteoglycan. HB-EGF is expressed in numerous cell types and tissues, including vascular endothelial cells and SMC, macrophages, skeletal muscle, keratinocytes and certain tumor cells. It has been shown to play a role in wound healing, cardiac hypertrophy and heart development and function (2). HB-EGF contributes to cell adhesion, invasion, and angiogenesis, which are integral to transcoelomic metastasis in ovarian cancer (3). Production of HB-EGF in vascular smooth muscle cells is induced by angiotensin, thus it may have an important autocrine role in the proliferation of these cells in vascular diseases such as atherosclerosis and hypertension. HB-EGF has been shown to interact with NRD1, zinc finger and BTB domain-containing protein 16 and BAG1.
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Form	This recombinant protein was 0.2 µm filtered and lyophilized from modified Dulbecco's phosphate buffered saline (1X PBS) pH 7.2 – 7.3 with no calcium, magnesium, or preservatives present.
Bio-activity	The biological activity of Human HB-EGF was determined by its ability to stimulate proliferation in a mouse fibroblast cell line, Balb/3T3. The expected ED50 for this effect is typically 0.15 - 0.75 ng/ml. The cell number is assessed in a fluorometric assay using the redox sensitive dye, Resazurin.
Molecular Mass	The predicted molecular weight of Recombinant Human HB-EGF is Mr 9.5 kDa. However, this recombinant protein is heterogenously O-glycosylated and the actual molecular weight as observed by migration on SDS-PAGE is Mr 12 kDa.
AA Sequence	dlqeadld llrvtlsskp qalatpnkee hgkrkkkgkg lgkkrdpclr kykdfcihge ckyvkelrap scichpgyhg erchglsl
Endotoxin	<1.0 eu/µg="" as="" determined="" by="" the="" lab="">
Purity	>97% by SDS-PAGE and analyzed by silver stain.
Storage	This lyophilized protein is stable for six to twelve months when stored desiccated at -20°C to -70°C. After aseptic reconstitution, this protein may be stored at 2°C to 8°C for one month or at -20°C to -70°C in a manual defrost freezer. Avoid Repeated Freeze Thaw Cycles.

GENE INFORMATION

Gene Name	HBEGF heparin-binding EGF-like growth factor [Homo sapiens]
Official Symbol	HBEGF

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Synonyms	HBEGF; heparin-binding EGF-like growth factor; diphtheria toxin receptor (heparin binding epidermal growth factor like growth factor) , DTR, DTS, HEGFL; proheparin-binding EGF-like growth factor; Diphtheria toxin receptor (heparin binding EGF like growth factor); heparin binding epidermal growth factor; heparin-binding epidermal growth factor; diphtheria toxin receptor (heparin-binding EGF-like growth factor); diphtheria toxin receptor (heparin-binding epidermal growth factor-like growth factor); DTR; DTS; DTSF; HEGFL;
Gene ID	1839
mRNA Refseq	NM_001945
Protein Refseq	NP_001936
MIM	126150
UniProt ID	Q99075
Chromosome Location	5q23
Pathway	Epithelial cell signaling in Helicobacter pylori infection, organism-specific biosystem; Epithelial cell signaling in Helicobacter pylori infection, conserved biosystem; ErbB receptor signaling network, organism-specific biosystem; ErbB signaling pathway, organism-specific biosystem; ErbB signaling pathway, organism-specific biosystem; ErbB signaling pathway, conserved biosystem; ErbB4 signaling events, organism-specific biosystem;
Function	epidermal growth factor receptor binding; eukaryotic cell surface binding; growth factor activity; heparin binding; receptor activity;