Human HBEGF / DTR Protein

Catalog Number: 10325-HNAB

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

DTR; DTS; DTSF; HEGFL

Protein Construction:

A DNA sequence encoding the human HBEGF (Q99075) (Met 1-Leu 148) without the C-terminal propeptide (aa 149-208), was expressed and purified.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

Measured in a cell proliferation assay using Balb/C 3T3 mouse embryonic fibroblasts.The ED_{50} for this effect is typically 0.4-2ng/mL.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Asp 63

Molecular Mass:

The expressed pro form of human HBEGF consists of 148 amino acids and predicts a molecular mass of 16.4 kDa. The processed soluble HBEGF is a 9.7 kDa protein comprising 86 amino acids generated by proteolytic processing.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

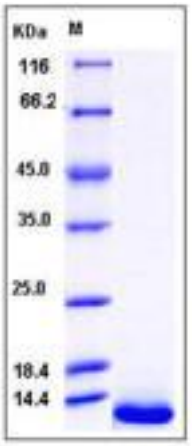
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Heparin-binding EGF-like growth factor (HBEGF), a member of the EGF family of growth factors, exerts its biological activity through activation of the EGFR and other ErbB receptors. Soluble mature HBEGF is proteolytically processed from a larger membrane-anchored precursor and is a potent mitogen and chemotactic factor for fibroblasts, smooth muscle cells but not endothelial cells. HBEGF activates two EGF receptor subtypes, HER1 and HER4 and binds to cell surface HSPG. The transmembrane form of HBEGF is a juxtacrine growth and adhesion factor and is uniquely the receptor for diphtheria toxin. Both forms of HB-EGF participate in normal physiological processes and in pathological processes including tumor progression and metastasis, organ hyperplasia, and atherosclerotic disease. HBEGF participates in diverse biological processes, including heart development and maintenance, skin wound healing, eyelid formation, blastocyst implantation, progression of atherosclerosis and tumor formation, through the activation of signaling molecules downstream of ErbB receptors and interactions with molecules associated with HBEGF. tumor necrosis factor-alpha (TNF-alpha) and interleukin-1 beta markedly increased HB-EGF mRNA levels in HUVEC by 12- and 7-fold, respectively, and induction of the gene by TNF-alpha was both dose- and time-dependent.

References

1.Miyamoto S, *et al*. (2006) Heparin-binding epidermal growth factor-like growth factor as a novel targeting molecule for cancer therapy. Cancer Sci. 97(5): 341-7. 2.Raab G, *et al*. (1997) Heparin-binding EGF-like growth factor. Biochim Biophys Acta. 1333(3): 179-99. 3.Pathak BG, *et al*. (1995) Mouse chromosomal location of three EGF receptor ligands: amphiregulin (Areg), betacellulin (Btc), and heparin-binding EGF (Hegfl). Genomics. 28(1): 116-8.