Datasheet for ABIN2666821

HBEGF Protein (AA 63-148)

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Overview

Quantity:	10 µg
Target:	HBEGF
Protein Characteristics:	AA 63-148
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Application:	Flow Cytometry (FACS)

Product Details

Purity:	> 95 % , as determined by Coomassie stained SDS-PAGE.
Sterility:	0.22 µm filtered
Endotoxin Level:	Less than 0.01 ng per µg cytokine as determined by the LAL method.

Target Details

Target:	HBEGF
Alternative Name:	HB-EGF (HBEGF Products)
Background:	Human HB-EGF was initially identified as a protein of 22 kD secreted by macrophage-like U937 cells. It belongs to the EGF family of proteins that includes EGF, TGF-α, heparin-binding EGF like-growth factor (HB-EGF), epigen, epiregulin, betacellulin, neuroregulin, and tomoregulin. All the EGF family members are synthesized as type I membrane protein precursors, which can

Target Details

	undergo proteolytic cleavage at the plasma membrane to release a mature soluble ectodomain. It has been suggested that various metalloproteinases participate in the shedding of HB-EGF, such as MMP-3, MMP-7, ADAM9, ADAM10, ADAM12, and ADAM17. The ectodomain shedding is stimulated by phorbol esters, calcium ionophore, lysophosphatidic acid, and IL-1β. In addition, nardilysin, a metalloendopeptidase of the M16 family, binds HB-EGF and enhances its shedding through activation of TACE (ADAM17). The membrane-anchored HB-EGF acts in cell-cell and cell-extracellular matrix interactions, in addition, the membrane HB-EGF is the receptor for diphtheria toxin that can be internalized and induce apoptotic death. HB-EGF plays a crucial role in cardiac valvulogenesis, newborn knockout mice have malformed semilunar and atrioventricular heart valves and poorly differentiated lungs. HB-EGF is overexpressed in several types of cancer such as pancreatic carcinoma, ovarian cancer, and gastric carcinoma. Also, HB-EGF is involved in cancer metastasis and invasion of ovarian cancer, head and neck cancer, and thyroid carcinoma cells.
Molecular Weight:	The 86 amino acid recombinant protein has a predicted molecular mass of approximately 9.7 kDa. The DTT-reduced and non-reduced protein migrate at approximately 13 kDa and 16 kDa respectively by SDS-PAGE. The predicted N-terminal amino acid is Asp.
Pathways:	RTK Signaling, Fc-epsilon Receptor Signaling Pathway, EGFR Signaling Pathway, Neurotrophin Signaling Pathway

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Comment:	Biological activity: ED50 = 0.2 - 1.2 ng/ml, corresponding to a specific activity of 0.83 - 5.0 x 106 units/mg, as determined by induction of BALB/3T3 clone A31 cell proliferation.
Restrictions:	For Research Use only

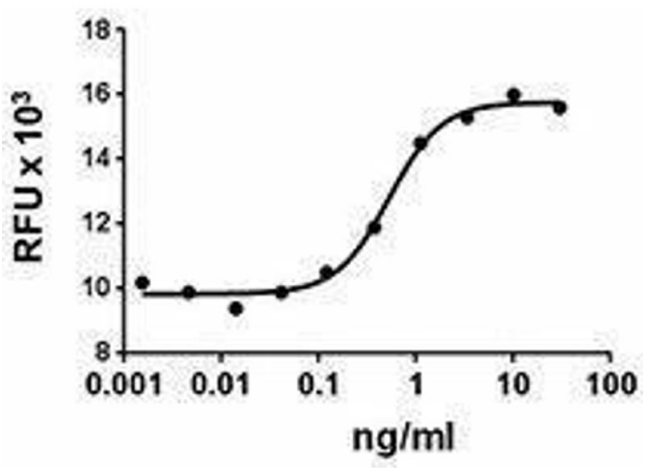
Handling

Format:	Liquid
Reconstitution:	For maximum results, quick spin vial prior to opening. Stock solutions should be prepared at no less than 10 µg/mL in sterile buffer (PBS, HPBS, DPBS, and EBSS) containing carrier protein such as 1 % BSA or HSA. After dilution, the cytokine can be stored between 2 °C and 8 °C for one month or from -20 °C to -70 °C for up to 3 months.
Buffer:	0.22 µm filtered protein solution is in PBS, pH 7.2.

Handling

Handling Advice:	Avoid repeated freeze/thaw cycles.
Storage:	-20 °C
Storage Comment:	Unopened vial can be stored between 2°C and 8°C for three months, at -20°C for six months, or at -70°C for one year.

Images



ELISA

Image 1.