Recombinant Human Pleiotrophin/PTN/HB-GAM Protein

Catalog Number: PKSH031708

Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

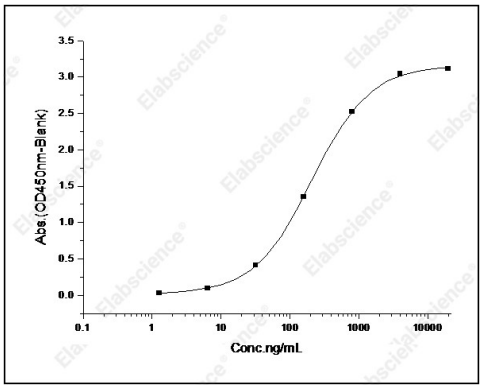
Description

Species	Human
Source	Baculovirus-Insect Cells-derived Human Pleiotrophin/PTN/HB-GAM protein Met 1-Asp168
Calculated MW	15.3 kDa
Observed MW	19 kDa
Accession	NP_002816.1
Bio-activity	Immobilized human PTN at 10 μg/ml (100 μl/well) can bind rat SDC1-Fc, The EC_{50} of rat SDC1-Fc is 0.35-0.81 μg/ml.

Properties

Purity	> 90% as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile 20 mM Tris, 1 M NaCl, pH 8.0 Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



Measured by its binding ability in a functional ELISA. Immobilized human PTN (Cat: PKSH031708) at 10 μg/ml (100 μl/well) can bind rat SDC1-Fc (Cat: PKSR030216), The EC_{50} of rat SDC1-Fc (Cat: PKSR030216) is 0.35-0.81 μg/ml.

Background

HB-GAM belongs to the pleiotrophin family. During embryonic and early postnatal development, HB-GAM is expressed in the central and peripheral nervous system and also in several non-neural tissues, notably lung, kidney, gut and bone. While in the adult central nervous system, it is expressed in an activity-dependent manner in the hippocampus where it can suppress long term potentiation induction. HB-GAM has a low expression in other areas of the adult brai n, but it can be induced by ischemic insults, or targeted neuronal damaged in the entorhinal cortex or in the substantia nigra pars compacta. It is structurally related to midkine and retinoic acid induced heparin-binding protein and has a high affinity for heparin. HB-GAM binds anaplastic lymphoma kinase (ALK) which induces MAPK pathway activation, an important step in the anti-apoptotic signaling of PTN and regulation of cell proliferation. It also functions as a secreted growth factor and induces neurite outgrowth and which is mitogenic for fibroblasts, epithelial, and endothelial cells.

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