ARG70318
Human FGFR1 recombinant protein (Active) (Fc-His-tagged, C-ter)

Package: 100 µg
Store at: -20°C

Summary

Product Description	HEK293 expressed, Fc-His-tagged (C-ter) Active Human FGFR1 recombinant protein.
Tested Reactivity	Hu
Tested Application	Binding, FuncSt, SDS-PAGE
Target Name	FGFR1
Species	Human
A.A. Sequence	Arg22 - Glu376 of Human FGFR1 (NP_075598.2) with an Fc - 6X His tag at the C - terminus.
Expression System	HEK293
Activity	Active
Activity Note	Measured by its ability to inhibit FGF-acidic dependent proliferation of Balb/c 3T3 mouse fibroblasts. The ED50 for this effect is typically 0.605-2.42 ng/ml.
Alternate Names	HH2; bFGF-R-1; Fibroblast growth factor receptor 1; Proto-oncogene c-Fgr; FLT2; FLG; CD antigen CD331; CEK; N-SAM; Fms-like tyrosine kinase 2; HBGFR; Basic fibroblast growth factor receptor 1; N-sam; CD331; FLT-2; FGFR-1; FGFBR; BFGFR; HRTFDS; KAL2; OGD; EC 2.7.10.1

Application Instructions

Application Note	Binding activity test: Measured by its binding ability in a functional ELISA. Immobilized Recombinant Human FGF1 at 10µg/ml (100 µl/well) can bind Recombinant Human FGFR1 with a linear range of 1.1-3.4 µg/ml.

Properties

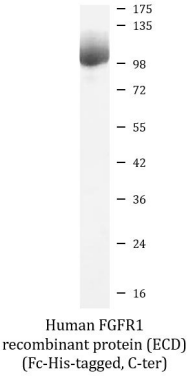
Form	Powder
Purification Note	0.22 µm filter sterilized. Endotoxin level is 95% (by SDS-PAGE)
Buffer	PBS (pH 7.4)
Reconstitution	Reconstitute to a concentration of 0.1 - 0.5 mg/ml in sterile distilled water.
Storage instruction	For long term, lyophilized protein should be stored at -20°C or -80°C. After reconstitution, aliquot and store at -20°C for up to one month, at 2-8°C for up to one week. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	FGFR1
Gene Full Name	fibroblast growth factor receptor 1
Background	The protein encoded by this gene is a member of the fibroblast growth factor receptor (FGFR) family, where amino acid sequence is highly conserved between members and throughout evolution. FGFR

	family members differ from one another in their ligand affinities and tissue distribution. A full-length representative protein consists of an extracellular region, composed of three immunoglobulin-like domains, a single hydrophobic membrane-spanning segment and a cytoplasmic tyrosine kinase domain. The extracellular portion of the protein interacts with fibroblast growth factors, setting in motion a cascade of downstream signals, ultimately influencing mitogenesis and differentiation. This particular family member binds both acidic and basic fibroblast growth factors and is involved in limb induction. Mutations in this gene have been associated with Pfeiffer syndrome, Jackson-Weiss syndrome, Antley-Bixler syndrome, osteoglophonic dysplasia, and autosomal dominant Kallmann syndrome 2. Chromosomal aberrations involving this gene are associated with stem cell myeloproliferative disorder and stem cell leukemia lymphoma syndrome. Alternatively spliced variants which encode different protein isoforms have been described; however, not all variants have been fully characterized. [provided by RefSeq, Jul 2008]
Function	Tyrosine-protein kinase that acts as cell-surface receptor for fibroblast growth factors and plays an essential role in the regulation of embryonic development, cell proliferation, differentiation and migration. Required for normal mesoderm patterning and correct axial organization during embryonic development, normal skeletogenesis and normal development of the gonadotropin-releasing hormone (GnRH) neuronal system. Phosphorylates PLCG1, FRS2, GAB1 and SHB. Ligand binding leads to the activation of several signaling cascades. Activation of PLCG1 leads to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5-trisphosphate. Phosphorylation of FRS2 triggers recruitment of GRB2, GAB1, PIK3R1 and SOS1, and mediates activation of RAS, MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling pathway, as well as of the AKT1 signaling pathway. Promotes phosphorylation of SHC1, STAT1 and PTPN11/SHP2. In the nucleus, enhances RPS6KA1 and CREB1 activity and contributes to the regulation of transcription. FGFR1 signaling is down-regulated by IL17RD/SEF, and by FGFR1 ubiquitination, internalization and degradation. [UniProt]
Calculated Mw	92 kDa
PTM	Autophosphorylated. Binding of FGF family members together with heparan sulfate proteoglycan or heparin promotes receptor dimerization and autophosphorylation on tyrosine residues. Autophosphorylation occurs in trans between the two FGFR molecules present in the dimer and proceeds in a highly ordered manner. Initial autophosphorylation at Tyr-653 increases the kinase activity by a factor of 50 to 100. After this, Tyr-583 becomes phosphorylated, followed by phosphorylation of Tyr-463, Tyr-766, Tyr-583 and Tyr-585. In a third stage, Tyr-654 is autophosphorylated, resulting in a further tenfold increase of kinase activity. Phosphotyrosine residues provide docking sites for interacting proteins and so are crucial for FGFR1 function and its regulation. Ubiquitinated. FGFR1 is rapidly ubiquitinated by NEDD4 after autophosphorylation, leading to internalization and lysosomal degradation. CBL is recruited to activated FGFR1 via FRS2 and GRB2, and mediates ubiquitination and subsequent degradation of FGFR1. N-glycosylated in the endoplasmic reticulum. The N-glycan chains undergo further maturation to an Endo H-resistant form in the Golgi apparatus. [UniProt]
Cellular Localization	Cell membrane; Single-pass type I membrane protein. Nucleus. Cytoplasm, cytosol. Cytoplasmic vesicle. Note=After ligand binding, both receptor and ligand are rapidly internalized. Can translocate to the nucleus after internalization, or by translocation from the endoplasmic reticulum or Golgi apparatus to the cytosol, and from there to the nucleus. [UniProt]

Images



ARG70318 Human FGFR1 recombinant protein (Active) (ECD) (Fc-His-tagged, C-ter) SDS-PAGE image

SDS-PAGE analysis of ARG70318 Human FGFR1 recombinant protein (Active) (ECD) (Fc-His-tagged, C-ter).