

ARG70258 Human FGFR3 recombinant protein (ECD) (Fc-His-tagged, C-ter)

Package: 100 µg

Store at: -20°C

Summary

Product Description	HEK293 expressed, Fc-His-tagged (C-ter) Human FGFR3 recombinant protein (ECD).
Tested Reactivity	Hu
Tested Application	Binding, SDS-PAGE
Target Name	FGFR3 (ECD)
Species	Human
A.A. Sequence	Glu23 - Gly375 of Human FGFR3 (NP_000133.1) with an Fc-6X His tag at the C-terminus.
Expression System	HEK293
Alternate Names	CEK2; CD antigen CD333; FGFR-3; ACH; JTK4; Fibroblast growth factor receptor 3; CD333; EC 2.7.10.1; HSFGR3EX

Application Instructions

Application Note	Binding activity test: Measured by its binding ability in a functional ELISA. Immobilized Recombinant Human FGF1 at 5µg/ml (100 µl/well) can bind Recombinant Human FGFR3 with a linear range of 0.5-1.5 µg/ml.
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Properties

Form	Powder
Purification Note	0.22 µm filter sterilized. Endotoxin level is 90% (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	FGFR3
Gene Full Name	fibroblast growth factor receptor 3
Background	This gene encodes a member of the fibroblast growth factor receptor (FGFR) family, with its amino acid sequence being highly conserved between members and among divergent species. FGFR family members differ from one another in their ligand affinities and tissue distribution. A full-length representative protein would consist 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 acidic and basic fibroblast growth hormone and plays a role in bone development and maintenance. Mutations in this gene lead to craniosynostosis and multiple types of skeletal dysplasia. [provided by RefSeq, Aug 2017]

Function

Tyrosine-protein kinase that acts as cell-surface receptor for fibroblast growth factors and plays an essential role in the regulation of cell proliferation, differentiation and apoptosis. Plays an essential role in the regulation of chondrocyte differentiation, proliferation and apoptosis, and is required for normal skeleton development. Regulates both osteogenesis and postnatal bone mineralization by osteoblasts. Promotes apoptosis in chondrocytes, but can also promote cancer cell proliferation. Required for normal development of the inner ear. Phosphorylates PLCG1, CBL and FRS2. 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. Plays a role in the regulation of vitamin D metabolism. Mutations that lead to constitutive kinase activation or impair normal FGFR3 maturation, internalization and degradation lead to aberrant signaling. Over-expressed or constitutively activated FGFR3 promotes activation of PTPN11/SHP2, STAT1, STAT5A and STAT5B. Secreted isoform 3 retains its capacity to bind FGF1 and FGF2 and hence may interfere with FGF signaling. [UniProt]

Calculated Mw

88 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. Phosphorylation at Tyr-724 is essential for stimulation of cell proliferation and activation of PIK3R1, STAT1 and MAP kinase signaling. Phosphorylation at Tyr-760 is required for interaction with PIK3R1 and PLCG1.

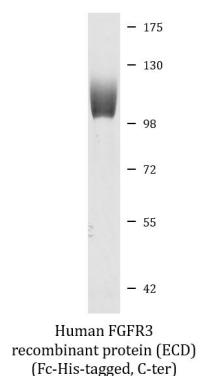
Ubiquitinated. Is rapidly ubiquitinated after ligand binding and autophosphorylation, leading to receptor internalization and degradation. Subject to both proteasomal and lysosomal degradation.

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

Isoform 1: Cell membrane; Single-pass type I membrane protein. Cytoplasmic vesicle. Endoplasmic reticulum. Note=The activated receptor is rapidly internalized and degraded. Detected in intracellular vesicles after internalization of the autophosphorylated receptor. Isoform 2: Cell membrane; Single-pass type I membrane protein. Isoform 3: Secreted. Isoform 4: Cell membrane; Single-pass type I membrane protein. [UniProt]

Images



ARG70258 Human FGFR3 recombinant protein (ECD) (Fc-His-tagged, C-ter) SDS-PAGE image

SDS-PAGE analysis of ARG70258 Human FGFR3 recombinant protein (ECD) (Fc-His-tagged, C-ter).