Data Sheet (Cat.No.TMPY-04371)

TargetMol

FGFR1 Protein, Human, Recombinant (His & GST)

General Information

Synonyms:	HRTFDS;CEK;OGD;FLG;FLT2;FGFBR;bFGF-R-1;N-SAM;fibroblast growth factor receptor 1; HBGFR;HH2;KAL2;FLT-2;FGFR-1;CD331;BFGFR
Protein Construction:	A DNA sequence encoding the human FGFR1 isoform 4 (NP_075594.1) cytoplasmic domain (Gly 311-Arg 731) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	H9FRD4
Molecular Weight:	75 kDa (predicted); 75 kDa (reducing conditions)

QC Testing

Biological Activity:	Kinase activity untested
Purity:	> 80 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 50 mM Tris, 100 mM NaCl, pH 8.0, 20% glycerol, 0.3 mM DTT.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

FGFR1, also known as CD331, belongs to the fibroblast growth factor receptor subfamily 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. Fibroblast growth factors (FGFs) (FGF1 - 10 and 16 - 23) are mitogenic signaling molecules that have roles in angiogenesis, wound healing, cell migration, neural outgrowth and embryonic development. FGFs bind heparan sulfate glycosaminoglycans, which facilitates dimerization (activation) of FGF receptors. FGFR1 is 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 FGFR1 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. CD331 can be detected in astrocytoma, neuroblastoma and adrenal cortex cell lines. Some isoforms are detected in foreskin fibroblast cell lines, however isoform 17, isoform 18 and isoform 19 are not detected in these cells. Defects in FGFR1 are a cause of Pfeiffer syndrome , idiopathic hypogonadotropic hypogonadism, Kallmann syndrome type 2, osteoglophonic dysplasia and trigonocephaly non-syndromic.Cancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy

Reference

Schlessinger J,et al.(2000) Crystal structure of a ternary FGF-FGFR-heparin complex reveals a dual role for heparin in FGFR binding and dimerization. Mol Cell. 6(3):743-50.

Dodé C,et al.(2007) Novel FGFR1 sequence variants in Kallmann syndrome, and genetic evidence that the FGFR1c isoform is required in olfactory bulb and palate morphogenesis. Hum Mutat. 28(1): 97-8.

Kim HG,et al.(2005) Hypogonadotropic hypogonadism and cleft lip and palate caused by a balanced translocation producing haploinsufficiency for FGFR1. J Med Genet. 42(8):666-72.

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