Biotinylated Recombinant Human FGFR4 His-tag Avi-tag

Catalog Number: AVI11120

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived human FGFR4 protein

Human FGFR-4 (Leu22-Asp369) Accession # P22455.2	6-His tag	Avi-tag

N-terminus C-terminus

N-terminal Sequence Analysis	Leu22
Structure / Form	Biotinylated via Avi-tag
Predicted Molecular Mass	41 kDa

SPECIFICATIONS

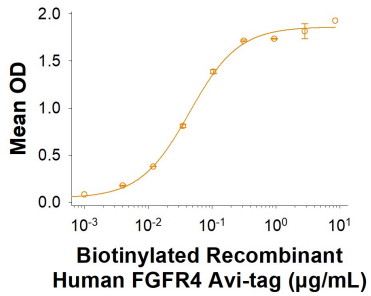
SDS-PAGE	60-75 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When recombinant human FGF acidic/FGF1 (Catalog # 232-FA/CF) is in the presence at 50.0 ng/mL, 100 µL/well, Recombinant Human FGFR4 His-tag Avi-tag (Catalog # AVI11120) binds with an ED_{50} of 20.0-120 ng/mL.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 2 weeks, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

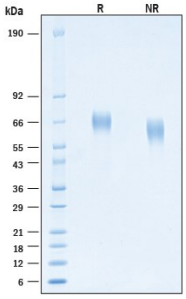
DATA

Binding Activity



Biotinylated Recombinant Human FGFR4 His-tag Avi-tag Protein Binding Activity. Measured by its binding ability in a functional ELISA. When recombinant human FGF acidic/FGF1 (Catalog # 232-FA/CF) is in the presence at 50.0 ng/mL, 100 µL/well, Recombinant Human FGFR4 His-tag Avi-tag Protein (Catalog # AVI11120) binds with an ED_{50} of 20.0-120 ng/mL.

SDS-PAGE



Biotinylated Recombinant Human FGFR4 His-tag Avi-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human FGFR4 His-tag Avi-tag Protein (Catalog # AVI11120) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 60-75 kDa.

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BACKGROUND

Fibroblast growth factor receptor 4 (FGFR4) belongs to a family of type I transmembrane tyrosine kinases which mediate the biological functions of FGFs that are involved in a multitude of physiological and pathological cellular processes (1). The FGFR family is comprised of 4 structurally conserved members (FGFR1-4) all possessing and extracellular domain (ECD) with three immunoglobulin (Ig)-like domains, an acid-box region containing a run of acidic residues between the IgI and IgII domains, a transmembrane domain and the split tyrosine-kinase domain (1, 2). The ECD of mature human FGFR4 shares 90% amino acid sequence identity with mouse FGFR4. Alternative splicing of the IgIII domain generates multiple forms of FGFR1-3, but FGFR4 does not have a splice variant (3, 4). FGFR4 exhibits distinct and varying binding affinities for different FGF ligands, with FGF1, FGF4, and FGF8 showing the highest affinity (4). FGFRs mediate the FGF signaling cascade which regulate developmental processes including cellular proliferation, differentiation, and migration, morphogenesis, and patterning (5). FGFRs transduce the signals through three dominant pathways including RAS/MAPK, PI3k/AKT, and PLCγ (6). FGFR4 is expressed at high levels during embryonic development and is required for the maintenance of both lipid and glucose metabolism as well as an established role in cholesterol metabolism (7). Overexpression of the FGFR4 has been reported in several solid tumors including breast cancer, prostate cancer, pancreatic cancer, and renal cell carcinoma (4, 8). Further, FGFR4 expression is significantly upregulated in most liver cancer cases, and enhanced FGF19-FGFR4 signaling is linked to hepatocellular carcinoma progression, metastasis, and poor survival (8). FGFR4 is being explored as a potential therapeutic target for breast cancer and other solid tumors (9). Our Avi-tag Biotinylated human FGFR4 features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

References:

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