FGFR-2 alpha IIIc Protein, Human (Biotinylated, HEK293, His-Avi)

Cat. No.:	HY-P78131
Synonyms:	FGF R2a; FGFR2 alpha; KGFR; CD332; BBDS; BEK; BFR-1; CEK3; CFD1; ECT1; JWS; K-SAM; KGFR; TK14; TK25; FLJ98662
Species:	Human
Source:	HEK293
Accession:	P21802 (R22-E377)
Gene ID:	2263
Molecular Weight:	70-80 kDa

PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Normally 8% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	FGFR-2 alpha IIIc protein, a tyrosine-protein kinase, serves as a cell-surface receptor for fibroblast growth factors and holds a pivotal role in regulating cell proliferation, differentiation, migration, and apoptosis, as well as embryonic development. Its indispensability is evident in normal embryonic patterning, trophoblast function, limb bud development, lung morphogenesis, osteogenesis, and skin development. Moreover, FGFR-2 alpha IIIc plays a crucial role in osteoblast differentiation, proliferation, and apoptosis, contributing significantly to normal skeleton development. While promoting cell proliferation in keratinocytes and immature osteoblasts, it fosters apoptosis in differentiated osteoblasts. Upon ligand binding, FGFR-2 alpha IIIc activates multiple signaling cascades, including the phosphorylation of PLCG1, FRS2, and PAK4. Activation of PLCG1 triggers the production of cellular signaling molecules such as diacylglycerol and inositol 1,4,5-trisphosphate. Phosphorylation of FRS2 leads to the recruitment of GRB2, GAB1, PIK3R1, and SOS1, mediating the activation of RAS, MAPK1/ERK2, MAPK3/ERK1, the MAP kinase signaling pathway, and the AKT1 signaling pathway. To regulate FGFR2 signaling, the protein undergoes down-regulation through ubiquitination, internalization, and degradation. Mutations resulting in constitutive kinase activation or impairing normal FGFR2 maturation, internalization, and degradation lead to aberrant signaling. Additionally, overexpressed FGFR2 promotes the activation of STAT1.

Caution: Product has not been fully validated for medical applications. For research use only.

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