FGFR-1 alpha (IIIc) Protein, Human (HEK293, His-Avi)

Cat. No.:	HY-P77659
Synonyms:	FGF R1a; FGFR1 alpha
Species:	Human
Source:	HEK293
Accession:	P11362-7 (R22-E374)
Gene ID:	2260
Molecular Weight:	65-85 kDa

PROPERTIES

Biological Activity	Immobilized Human FGFR1 alpha (IIIc) at 0.5 μg/mL (100 μl/Well) on the plate. Dose response curve for Anti-FGFR1 Antibody, hFc Tag with the EC_{50} of ≤12.9 ng/mL determined by ELISA.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Normally 5% 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-1 alpha, a tyrosine-protein kinase, functions as a cell-surface receptor for fibroblast growth factors and plays a pivotal role in regulating embryonic development, cell proliferation, differentiation, and migration. It is essential for normal mesoderm patterning, proper axial organization during embryonic development, skeletogenesis, and the development of the gonadotropin-releasing hormone (GnRH) neuronal system. Upon ligand binding, FGFR-1 alpha activates multiple signaling cascades, phosphorylating key proteins such as PLCG1, FRS2, GAB1, and SHB. This activation leads to the production of signaling molecules like diacylglycerol and inositol 1,4,5-trisphosphate through PLCG1. Moreover, phosphorylation of FRS2 triggers 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. FGFR-1 alpha also promotes the phosphorylation of SHC1, STAT1, and PTPN11/SHP2. Within the nucleus, it enhances the activity of RPS6KA1 and CREB1, contributing to the regulation of transcription. The down-regulation of FGFR-1 alpha signaling occurs through IL17RD/SEF and FGFR-1 alpha ubiquitination, internalization, and degradation.

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

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