

Frizzled-4/CD344 Protein, Rat (HEK293, His)

Cat. No.:	HY-P74142
Synonyms:	CD344; EVR1; FEVR; Frizzled homolog 4 (Drosophila); Frizzled-4; Fz-4; FZD4
Species:	Rat
Source:	HEK293
Accession:	Q9QZH0/NP_072145.1 (F38-E181)
Gene ID:	64558
Molecular Weight:	Approximately 23-30 kDa due to the glycosylation

PROPERTIES

AA Sequence	<pre> F G D E E E R R C D P I R I A M C Q N L G Y N V T K M P N L V G H E L Q T D A E L Q L T T F T P L I Q Y G C S S Q L Q F F L C S V Y V P M C T E K I N I P I G P C G G M C L S V K R R C E P V L K E F G F A W P D S L N C S K F P P Q N D H N H M C M E G P G D E E V P L P H K T P I Q P G E E </pre>
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Human Frizzled-4, at 0.1µg/mL (100 µL/well) can bind Wnt-5a. The ED ₅₀ for this effect is 32.28 ng/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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	Frizzled-4/CD344, a receptor for Wnt proteins, predominantly engages the beta-catenin canonical signaling pathway, initiating a cascade involving disheveled proteins, GSK-3 kinase inhibition, nuclear accumulation of beta-catenin (CTNNB1), and activation of Wnt target genes. Its pivotal role in retinal vascularization is underscored as it acts as a receptor for both Wnt proteins and norrin (NDP), contributing to beta-catenin (CTNNB1) accumulation and stimulation of LEF/TCF-mediated transcriptional programs. Frizzled-4/CD344 can be activated by Wnt protein binding as well as Wnt-independent signaling
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via norrin (NDP). Additionally, a second pathway involving PKC and calcium fluxes, possibly integrated with the canonical pathway, has been observed for some family members. Implications extend to tissue morphogenesis and intercellular transmission of polarity information. Frizzled-4/CD344's interactions with MAGI3, NDP, and participation in a complex with TSPAN12 and norrin (NDP) emphasize its multifaceted role. The competitive binding of TSKU and interaction with glypican GPC3 further add nuances to its regulatory functions within intricate signaling networks.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA