

FLRT2 Protein, Human, Recombinant (His)

General Information

Synonyms:	UNQ232/PRO265;fibronectin leucine rich transmembrane protein 2;KIAA0405
Protein Construction:	A DNA sequence encoding the human FLRT2 (O43155) extracellular domain (Met 1-Ser 539) was expressed, with a C-terminal polyhistidine tag. Predicted N terminal: Cys 36
Species:	Human
Expression Host:	HEK293 Cells
Accession:	O43155
Molecular Weight:	57.7 kDa (predicted); 75 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by the ability of the immobilized protein to support the adhesion of Neuro-2A mouse neuroblastoma cells. When cells are added to coated plates(5µg/mL, 100µL/well), approximately 50%-70% will adhere after 1 hour at 37°C.
Purity:	> 98 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

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 recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Fibronectin Leucine-Rich Transmembrane (FLRT) proteins are glycosylated membrane proteins expressed at the cell surface which localise in a homophilic manner to cell-cell contacts expressing the focal adhesion marker vinculin. FLRT1, FLRT2, and FLRT3, the three genes encode putative type I transmembrane proteins, each containing 10 leucine-rich repeats (LRR), a type III fibronectin (FN) domain, followed by the transmembrane

region, and a short cytoplasmic tail. FLRT family members may function in cell adhesion and/or receptor signalling. Each member of the FLRT family has a distinct, highly regulated expression pattern, as was seen for the NLRR family. FLRT2 is expressed in a subset of the sclerotome, adjacent to the region that forms the syndetome, suggesting that interaction with FGF signalling may be a general property of FLRT proteins. All FLRTs can interact with FGFR1 and FLRTs can be induced by the activation of FGF signalling by FGF-2. FLRT proteins have a dual role, promoting FGF signalling and modulating homotypic cell adhesion. FLRT2 played critical roles in craniofacial development, and it was also present in the vomero-nasal organ, mandibular primordia, and the posterior aspects of the unfused and fused secondary palatal shelves.

Reference

Lacy SE, et al. (1999) Identification of FLRT1, FLRT2, and FLRT3: a novel family of transmembrane leucine-rich repeat proteins. *Genomics*. 62(3): 417-26.

Haines BP, et al. (2006) Regulated expression of FLRT genes implies a functional role in the regulation of FGF signalling during mouse development. *Dev Biol*. 297(1): 14-25.

Maretto S, et al. (2008) Ventral closure, headfold fusion and definitive endoderm migration defects in mouse embryos lacking the fibronectin leucine-rich transmembrane protein FLRT3. *Dev Biol*. 318(1): 184-93.

Wheldon LM, et al. (2010) Critical role of FLRT1 phosphorylation in the interdependent regulation of FLRT1 function and FGF receptor signalling. *PLoS One*. 5(4): e10264.

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