Data Sheet (Cat.No.TMPY-02032)

TargetMol

FLRT1 Protein, Human, Recombinant (His)

General Information

Synonyms:	SPG68;fibronectin leucine rich transmembrane protein 1
Protein Construction:	A DNA sequence encoding the human FLRT1 extracellular domain (Q9NZU1-1) (Met 1-Pro 524) was expressed, fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Ile 21
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q9NZU1-1
Molecular Weight:	57 kDa (predicted); 65 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℃.
Purity:	> 96 % 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℃ to -80℃ 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℃. For reconstituted protein solutions, the solution can be stored at -20℃ to -80℃ 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

The three fibronectin leucine-rich repeat transmembrane (FLRT) proteins contain 10 leucine-rich repeats (LRR), a type III fibronectin (FN) domain, followed by the transmembrane region, and a short cytoplasmic tail. FLRT1 is expressed in kidney and brain, which is a target for tyrosine phosphorylation mediated by FGFR1 and implicates a

non-receptor Src family kinase (SFK). All FLRTs can interact with FGFR1 and FLRTs can be induced by the activation of FGF signalling by FGF-2. The phosphorylation state of FLRT1, which is itself FGFR1 dependent, may play a critical role in the potentiation of FGFR1 signalling and may also depend on a SFK-dependent phosphorylation mechanism acting via the FGFR. This is consistent with an 'in vivo' role for FLRT1 regulation of FGF signalling via SFKs. Furthermore, the phosphorylation-dependent futile cycle mechanism controlling FGFR1 signalling is concurrently crucial for regulation of FLRT1-mediated neurite outgrowth. FLRT1, FLRT2 and FLRT3 are members of the fibronectin leucine rich transmembrane protein (FLRT) family. They may function in cell adhesion and/or receptor signalling. Their protein structures resemble small leucine-rich proteoglycans found in the extracellular matrix. FLRT3 shares 55% amino acid sequence identity with FLRT1.

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.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481