

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse FLRT1 protein Thr52-Pro552 Accession # NP_958813.1
N-terminal Sequence Analysis	Thr52
Predicted Molecular Mass	60 kDa

SPECIFICATIONS

SDS-PAGE	65-83 kDa, under reducing conditions.
Activity	Measured by the ability of the immobilized protein to support the adhesion of Neuro-2A mouse neuroblastoma cells. The ED ₅₀ for this effect is 0.50-4.00 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity

Recombinant Mouse FLRT1 His-tag Protein Bioactivity. Recombinant Mouse FLRT1 His-tag Protein (Catalog # 10955-FL) supports the adhesion of Neuro 2A mouse neuroblastoma cells. The ED₅₀ for this effect is 0.500-4.00 µg/mL.

SDS-PAGE

Recombinant Mouse FLRT1 His-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Mouse FLRT1 His-tag Protein (Catalog # 10955-FL) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 65-83 kDa.

BACKGROUND

Fibronectin-like domain-containing leucine-rich transmembrane protein 1 (FLRT1) is one of three FLRT leucine-rich repeat transmembrane glycoproteins involved in the regulation of FGF signaling. FLRTs are characterized by an extracellular domain (ECD) with fibronectin and leucine rich repeat (LRR) motifs involved in cell adhesion functions (1). Mature mouse FLRT1 consists of an ECD with 10 N-terminal leucine-rich repeats and a juxtamembrane fibronectin type III domain, a single transmembrane domain and a short cytoplasmic domain lacking defined signaling motifs (1). The ECD of mouse FLRT1 shares 97% amino acid (aa) sequence identity with the ECD of human FLRT1. Both during development and in adulthood, FLRT1 is expressed in distinct areas of the brain and other tissues, including the kidney, and its expression is distinct from that of FLRT2 and FLRT3 (1, 2). In mouse, FLRT1 is expressed at brain compartmental boundaries in embryos (2). The fibronectin domain of all three FLRTs can bind FGF receptors and this binding is thought to regulate FGF signaling during development (2, 3). The LRR domains are responsible for both the localization of FLRTs in areas of cell contact and homotypic cell-cell association (4). This may be through direct interactions with other FLRT molecules or, as has been shown for FLRT3, by regulating internalization of adhesion molecules such as cadherins (4, 5). Down-regulation of FLRT1 has been associated with prognosis of gastric cancer and has potential to be a therapeutic target for tumor treatment (6).

References:

1. Lacy, S.E. *et al.* (1999) *Genomics* **62**:417.
2. Haines, B.P. *et al.* (2006) *Dev. Biol.* **297**:14.
3. Bottcher, R.T. *et al.* (2004) *Nat. Cell Biol.* **6**:38.
4. Karaulanov, E.E. *et al.* (2006) *EMBO Rep.* **7**:283.
5. Ogata, S. *et al.* (2007) *Genes Dev.* **21**:1817.
6. Liang, Y. *et al.* (2019) *Pathol. Res. Pract.* **215**:152570.