

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human FLRT1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 10% cross-reactivity with recombinant human (rh) FLRT3 is observed and less than 1% cross-reactivity with rhFLRT2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human FLRT1 Ile21-Pro524 Accession # Q9NZU1
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human FLRT1 (Catalog # 2794-FL)
Flow Cytometry	2.5 µg/10 ⁶ cells	HEK293 human embryonic kidney cell line
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

FLRT1 is one of three FLRT (fibronectin, leucine rich repeat, transmembrane) glycoproteins expressed in distinct areas of the developing brain and other tissues (1, 2). The 90 kDa type I transmembrane (TM) human FLRT1 is synthesized as a 646 amino acid (aa) precursor with a 20 aa signal sequence, a 504 aa extracellular domain (ECD), a 21 aa TM segment and a 101 aa cytoplasmic region. The ECD contains 10 N-terminal leucine-rich repeats flanked by cysteine-rich areas, and a juxtamembrane fibronectin type III domain (1). The human FLRT1 ECD shares 97% aa sequence identity with mouse, rat, and canine, and 95% with bovine FLRT1 ECD. Human FLRT2 and FLRT3 ECDs share 47% and 61% aa identity, respectively, with FLRT1. The fibronectin domain of all three FLRTs can bind FGF receptors (2). 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). Both during development and in adulthood, FLRT1 mRNA is predominantly expressed in brain and kidney (1). FLRT1 is expressed at brain compartmental boundaries in mouse embryos (2). Its expression is distinct from that of FLRT2 and FLRT3 (2).

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.