SANTA CRUZ BIOTECHNOLOGY, INC.

FLRT3 (I-15): sc-82155

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The Power to Question

BACKGROUND

FLRT3 (fibronectin leucine-rich transmembrane protein 3), also known as KIAA1469, is a 649 amino acid single-pass type I membrane protein that contains one Fibronectin type-III domain and 10 leucine-rich repeats and belongs to the Fibronectin leucine-rich transmembrane protein (FLRT) family. Expressed in heart, liver, lung, kidney, pancreas, brain, placenta and skeletal muscle, FLRT3 is thought to be involved in receptor signaling events and may play a role in both cell adhesion and neurite outgrowth. Defects in the gene encoding mouse FLRT3 may lead to ventral closure, headfold fusion and endoderm migration defects, suggesting that FLRT3 is important for proper cell differentiation and development. FLRT3 exists as multiple alternatively spliced isoforms that are encoded by a gene which maps to human chromosome 20p12.1.

REFERENCES

1. Lacy, S.E., et al. 1999. Identification of FLRT1, FLRT2, and FLRT3: a novel family of transmembrane leucine-rich repeat proteins. Genomics 62: 417-426.
2. Tsuji, L., et al. 2004. FLRT3, a cell surface molecule containing LRR repeats and a FNIII domain, promotes neurite outgrowth. Biochem. Biophys. Res. Commun. 313: 1086-1091.
3. Robinson, M., et al. 2004. FLRT3 is expressed in sensory neurons after peripheral nerve injury and regulates neurite outgrowth. Mol. Cell. Neurosci. 27: 202-214.
4. Böttcher, R.T., et al. 2004. The transmembrane protein XFLRT3 forms a complex with FGF receptors and promotes FGF signalling. Nat. Cell Biol. 6: 38-44.
5. Haines, B.P., et al. 2006. Regulated expression of FLRT genes implies a functional role in the regulation of FGF signalling during mouse development. Dev. Biol. 297: 14-25.
6. Karaulanov, E.E., et al. 2006. A role for Fibronectin-leucine-rich transmembrane cell-surface proteins in homotypic cell adhesion. EMBO Rep. 7: 283-290.
7. Ogata, S., et al. 2007. TGF-β signaling-mediated morphogenesis: modulation of cell adhesion via cadherin endocytosis. Genes Dev. 21: 1817-1831.
8. 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: 184-193.
9. Egea, J., et al. 2008. Genetic ablation of FLRT3 reveals a novel morphogenetic function for the anterior visceral endoderm in suppressing mesoderm differentiation. Genes Dev. 22: 3349-3362.

CHROMOSOMAL LOCATION

Genetic locus: FLRT3 (human) mapping to 20p12.1; Flrt3 (mouse) mapping to 2 F3.

SOURCE

FLRT3 (I-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an extracellular domain of FLRT3 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82155 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FLRT3 (I-15) is recommended for detection of FLRT3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with family members FLTR1 or FLTR2.

FLRT3 (I-15) is also recommended for detection of FLRT3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for FLRT3 siRNA (h): sc-75038, FLRT3 siRNA (m): sc-145200, FLRT3 shRNA Plasmid (h): sc-75038-SH, FLRT3 shRNA Plasmid (m): sc-145200-S, FLRT3 shRNA (h) Lentiviral Particles: sc-75038-V and FLRT3 shRNA (m) Lentiviral Particles: sc-145200-V.

Molecular Weight of FLRT3: 90 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.