SANTA CRUZ BIOTECHNOLOGY, INC.

Munc13-4 (P-16): sc-54633

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The Power to Question

BACKGROUND

Munc13-4 is a member of the Munc13 family and is a homolog to Munc13-1. Munc13-4 lacks the C1 domain and N-terminal extension that are present in other Munc13 family members. It is a peripheral membrane, GTP-Rab 27a-binding protein. Munc13-4 has a ubiquitous tissue distribution, however, unlike related proteins Munc13-1, -2 and -3, Munc13-4 is mainly expressed outside the nervous system. High expression levels of Munc13-4 have been seen in mucous goblet and alveolar type II cells of the lung, as well as in cytotoxic T lymphocytes and mast cells. Munc13-4 localizes to secretory lysosomes. Overexpression of Munc13-4 enhances degranulation of mast cell secretory lysosomes, suggesting that it positively regulates secretory lysosome fusion and exocytosis. Mutations in Munc13-4 cause familial hemophagocytic lymphohistiocytosis subtype 3.

REFERENCES

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2. Shirakawa, R., et al. 2004. Munc13-4 is a GTP-Rab 27-binding protein regulating dense core granule secretion in platelets. J. Biol. Chem. 279: 10730-10737.
3. Neeft, M., et al. 2005. Munc13-4 is an effector of Rab 27a and controls secretion of lysosomes in hematopoietic cells. Mol. Biol. Cell 16: 731-741.
4. Ishii, E., et al. 2005. Genetic subtypes of familial hemophagocytic lymphohistiocytosis: correlations with clinical features and cytotoxic T lymphocyte/natural killer cell functions. Blood 105: 3442-3448.
5. Yamamoto, K., et al. 2005. Mutations of Syntaxin 11 and SNAP 23 genes as causes of familial hemophagocytic lymphohistiocytosis were not found in Japanese people. J. Hum. Genet. 50: 600-603.
6. Hong, W., et al. 2005. Cytotoxic T lymphocyte exocytosis: bring on the SNAREs! Trends Cell Biol. 15: 644-650.
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8. Ueda, I., et al. 2006. Correlation between phenotypic heterogeneity and gene mutational characteristics in familial hemophagocytic lymphohistiocytosis (FHL). Pediatr. Blood Cancer 46: 482-488.
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CHROMOSOMAL LOCATION

Genetic locus: UNC13D (human) mapping to 17q25.1; Unc13d (mouse) mapping to 11 E2.

SOURCE

Munc13-4 (P-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Munc13-4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54633 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Munc13-4 (P-16) is recommended for detection of Munc13-4 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).

Munc13-4 (P-16) is also recommended for detection of Munc13-4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Munc13-4 siRNA (h): sc-62651, Munc13-4 siRNA (m): sc-62652, Munc13-4 shRNA Plasmid (h): sc-62651-SH, Munc13-4 shRNA Plasmid (m): sc-62652-SH, Munc13-4 shRNA (h) Lentiviral Particles: sc-62651-V and Munc13-4 shRNA (m) Lentiviral Particles: sc-62652-V.

Molecular Weight of Munc13-4: 120 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (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.