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Munc13-4 (h): 293T Lysate: sc-177578

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

1. Feldmann, J., et al. 2003. Munc13-4 is essential for cytolytic granules fusion and is mutated in a form of familial hemophagocytic lymphohistiocytosis (FHL-3). *Cell* 115: 461-473.
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. Neef, 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.

CHROMOSOMAL LOCATION

Genetic locus: UNC13D (human) mapping to 17q25.1.

PRODUCT

Munc13-4 (h): 293T Lysate represents a lysate of human Munc13-4 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Munc13-4 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Munc13-4 antibodies. Recommended use: 10-20 µl per lane.

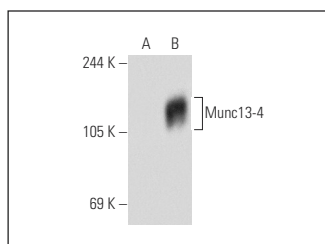
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Munc13-4 (C-12): sc-271301 is recommended as a positive control antibody for Western Blot analysis of enhanced human Munc13-4 expression in Munc13-4 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Munc13-4 (C-12): sc-271301. Western blot analysis of Munc13-4 expression in non-transfected: sc-117752 (A) and human Munc13-4 transfected: sc-177578 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.