SANTA CRUZ BIOTECHNOLOGY, INC.

vanin-1 (3-RE8): sc-135599

BACKGROUND

Hematopoietic precursor cells migrate to the thymus, where they differentiate into mature T lymphocytes. GPI-anchored vanin-1 protein regulates the late adhesion steps of thymus homing of bone marrow precursor cells. Vanin-1 is ubiquitously expressed as a pantetheinase enzyme and catalyzes the hydrolysis of pantetheine for vitamin B5 recycling. The hydrolytic activity of vanin-1 generates the potent antioxidant cysteamine as a metabolite. As a membrane bound pantetheinase, vanin-1 provides the main source of cysteamine under normal physiological conditions. In mice, vanin-1 is expressed specifically in male Sertoli cells of the developing testis, where it aids in cell migration. Vanin-1 is also expressed in human spleen, liver and small intestine, where it may be involved in salvaging vitamin B5. The gene encoding human vanin-1 maps to chromosome 6q23.2. Other members of the vanin family include vanin-2 and vanin-3.

REFERENCES

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2. Aurrand-Lions, M., Galland, F., Bazin, H., Zakharyev, V.M., Imhof, B.A. and Naquet, P. 1996. Vanin-1, a novel GPI-linked perivascular molecule involved in thymus homing. Immunity 5: 391-405.
3. Galland, F., Malergue, F., Bazin, H., Mattei, M.G., Aurrand-Lions, M., Theillet, C. and Naquet, P. 1998. Two human genes related to murine vanin-1 are located on the long arm of human chromosome 6. Genomics 53: 203-213.
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5. Bowles, J., Bullejos, M. and Kopman, P. 2000. A subtractive gene expression screen suggests a role for vanin-1 in testis development in mice. Genesis 27: 124-135.
6. Grimmond, S., Van Hateren, N., Siggers, P., Arkell, R., Larder, R., Soares, M.B., de Fatima Bonaldo, M., Smith, L., Tyowska-Lalanne, Z., Wells, C. and Greenfield, A. 2000. Sexually dimorphic expression of protease nexin-1 and vanin-1 in the developing mouse gonad prior to overt differentiation suggests a role in mammalian sexual development. Hum. Mol. Genet. 9: 1553-1560.

CHROMOSOMAL LOCATION

Genetic locus: VNN1 (human) mapping to 6q23.2.

SOURCE

vanin-1 (3-RE8) is a mouse monoclonal antibody raised against recombinant vanin-1 protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

vanin-1 (3-RE8) is recommended for detection of vanin-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for vanin-1 siRNA (h): sc-36807, vanin-1 shRNA Plasmid (h): sc-36807-SH and vanin-1 shRNA (h) Lentiviral Particles: sc-36807-V.

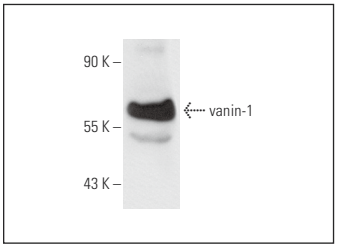
Molecular Weight of vanin-1: 70 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or Hs 67 whole cell lysate.

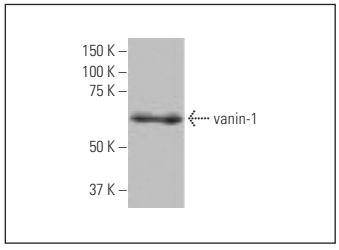
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



vanin-1 (3-RE8): sc-135599. Western blot analysis of vanin-1 expression in Hs 67 whole cell lysate.



vanin-1 (3-RE8): sc-135599. Western blot analysis of vanin-1 expression in A-431 whole cell lysate.

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 for detailed protocols and support products.