

vanin-1 (407): sc-23907

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

1. Dupre, S., et al. 1970. The enzymatic breakdown of pantetheine to pantothenic acid and cystamine. *Eur. J. Biochem.* 16: 571-578.
2. Aurrand-Lions, M., et al. 1996. Vanin-1, a novel GPI-linked perivascular molecule involved in thymus homing. *Immunity* 5: 391-405.
3. Galland, F., et al. 1998. Two human genes related to murine vanin-1 are located on the long arm of human chromosome 6. *Genomics* 53: 203-213.
4. Pitari, G., et al. 2000. Pantetheinase activity of membrane-bound vanin-1: lack of free cysteamine in tissues of vanin-1 deficient mice. *FEBS Lett.* 483: 149-154.
5. Grimmond, S., et al. 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 (mouse) mapping to 10 A4.

SOURCE

vanin-1 (407) is a rat monoclonal antibody raised against mouse thymic stromal cell lines (MTE).

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

vanin-1 (407) is available conjugated to agarose (sc-23907 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-23907 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-23907 PE), fluorescein (sc-23907 FITC), Alexa Fluor® 488 (sc-23907 AF488), Alexa Fluor® 546 (sc-23907 AF546), Alexa Fluor® 594 (sc-23907 AF594) or Alexa Fluor® 647 (sc-23907 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-23907 AF680) or Alexa Fluor® 790 (sc-23907 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

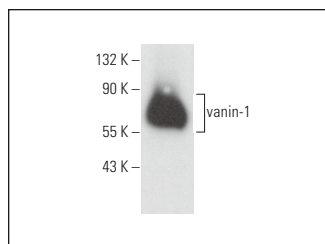
vanin-1 (407) is recommended for detection of vanin-1 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for vanin-1 siRNA (m): sc-36808, vanin-1 shRNA Plasmid (m): sc-36808-SH and vanin-1 shRNA (m) Lentiviral Particles: sc-36808-V.

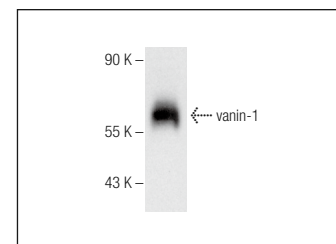
Molecular Weight of vanin-1: 70 kDa.

Positive Controls: MTE1D whole cell lysate: sc-364918.

DATA



vanin-1 (407): sc-23907. Western blot analysis of vanin-1 expression in MTE1D whole cell lysate.



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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.