

vanin-1 (C-20): sc-16778

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 pantothentic 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. Bowles, J., et al. 2000. A subtractive gene expression screen suggests a role for vanin-1 in testis development in mice. *Genesis* 27: 124-135.
5. 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.
6. 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 (human) mapping to 6q23.2.

SOURCE

vanin-1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of vanin-1 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-16778 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

vanin-1 (C-20) is recommended for detection of vanin-1 of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

vanin-1 (C-20) is also recommended for detection of vanin-1 in additional species, including equine, canine, bovine and porcine.

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.

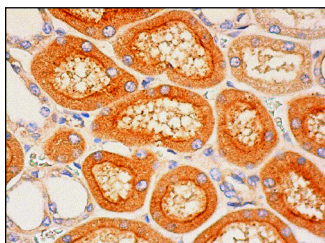
Molecular Weight of vanin-1: 70 kDa.

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

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



vanin-1 (C-20): sc-16778. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing apical membrane and cytoplasmic staining of cells in tubules.

RESEARCH USE

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

MONOS
Satisfaction
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Try **vanin-1 (3-RE8): sc-135599**, our highly recommended monoclonal alternative to vanin-1 (C-20).