

# VAT1 (3E9): sc-517132

## BACKGROUND

The storage and release of neurotransmitters in the nerve terminal is regulated by synaptic vesicles. In response to an intracellular increase in calcium levels, synaptic vesicles open and release neurotransmitters across the neuronal synapse, thereby propagating nerve impulses between neurons. VAT1 (vesicle amine transport protein 1) is a 393 amino acid integral membrane protein that is located within cholinergic synaptic vesicles. Expressed in tissues throughout the body, VAT1 belongs to the quinone oxidoreductase subfamily of zinc-containing alcohol dehydrogenase proteins and is thought to play a role in vesicular transport. Defects in the gene encoding VAT1 may be associated with endocrine disorders and tumorigenesis.

## REFERENCES

1. Linial, M., et al. 1989. VAT-1: an abundant membrane protein from Torpedo cholinergic synaptic vesicles. *Neuron* 2: 1265-1273.
2. Peter, D., et al. 1993. Chromosomal localization of the human vesicular amine transporter genes. *Genomics* 18: 720-723.
3. Friedman, L.S., et al. 1994. The search for BRCA1. *Cancer Res.* 54: 6374-6382.
4. Miki, Y., et al. 1994. A strong candidate for the breast and ovarian cancer susceptibility gene BRCA1. *Science* 266: 66-71.
5. Smith, T.M., et al. 1996. Complete genomic sequence and analysis of 117 kb of human DNA containing the gene BRCA1. *Genome Res.* 6: 1029-1049.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604631. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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## CHROMOSOMAL LOCATION

Genetic locus: VAT1 (human) mapping to 17q21.31.

## SOURCE

VAT1 (3E9) is a mouse monoclonal antibody raised against amino acids 294-392 representing partial length VAT1 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

VAT1 (3E9) is recommended for detection of VAT1 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 VAT1 siRNA (h): sc-93942, VAT1 shRNA Plasmid (h): sc-93942-SH and VAT1 shRNA (h) Lentiviral Particles: sc-93942-V.

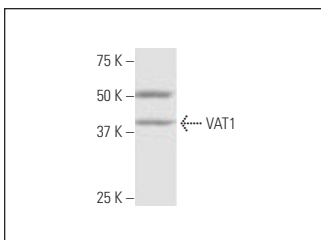
Molecular Weight of VAT1: 42 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

## 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, TBS Blotto A Blocking Reagent: sc-2333 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



VAT1 (3E9): sc-517132. Western blot analysis of VAT1 expression in MCF7 whole cell lysate.

## RESEARCH USE

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