SANTA CRUZ BIOTECHNOLOGY, INC.

VAT1 (E-7): sc-515705

The Power to Question

BACKGROUND

The storage and release of neurotransmitters in the nerve terminal is regulated by synaptic vesicles. In response to an intracellular increase in calicum 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.

CHROMOSOMAL LOCATION

Genetic locus: VAT1 (human) mapping to 17q21.31; Vat1 (mouse) mapping to 11 D.

SOURCE

VAT1 (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 234-250 within an internal region of VAT1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-515705 X, 200 µg/0.1 ml.

VAT1 (E-7) is available conjugated to agarose (sc-515705 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515705 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515705 PE), fluorescein (sc-515705 FITC), Alexa Fluor® 488 (sc-515705 AF488), Alexa Fluor® 546 (sc-515705 AF546), Alexa Fluor® 594 (sc-515705 AF594) or Alexa Fluor® 647 (sc-515705 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515705 AF680) or Alexa Fluor® 790 (sc-515705 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

VAT1 (E-7) is recommended for detection of VAT1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 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 siRNA (m): sc-155094, VAT1 shRNA Plasmid (h): sc-93942-SH, VAT1 shRNA Plasmid (m): sc-155094-SH, VAT1 shRNA (h) Lentiviral Particles: sc-93942-V and VAT1 shRNA (m) Lentiviral Particles: sc-155094-V.

VAT1 (E-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

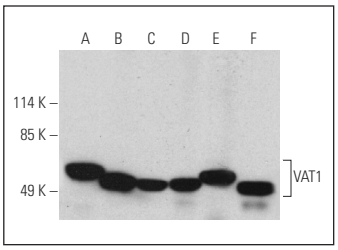
Molecular Weight of VAT1: 42 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, MCF7 whole cell lysate: sc-2206 or Jurkat whole cell lysate: sc-2204.

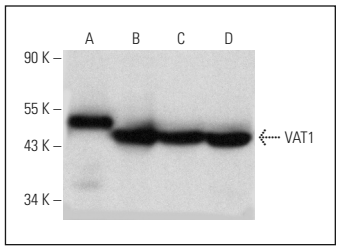
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



VAT1 (E-7) HRP: sc-515705 HRP. Direct western blot analysis of VAT1 expression in NIH/3T3 (**A**), Jurkat (**B**), MCF7 (**C**), T98G (**D**), Neuro-2A (**E**) and SUP-T1 (**F**) whole cell lysates.



VAT1 (E-7): sc-515705. Western blot analysis of VAT1 expression in NIH/3T3 (**A**), Jurkat (**B**), MCF7 (**C**) and T98G (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lanz, M.C., et al. 2022. Increasing cell size remodels the proteome and promotes senescence. Mol. Cell. E-published.

STORAGE

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