

SV2A (R-16): sc-11939

BACKGROUND

In all vertebrates, SV2 proteins are abundant, hydrophobic, membrane glycoproteins that are expressed as two major isoforms, SV2A and SV2B, and one minor isoform, SV2C. SV2 proteins are differentially expressed in the brain and are present on all synaptic vesicles, independent of transmitter type. SV2A is abundantly expressed in the subcortex, specifically in the synaptic vesicles of all presynaptic nerve terminals, and also in most neuroendocrine secretory granules. SV2B displays a more restricted pattern of expression in that it is only present on a small subset of synapses in the hippocampus and cortex. SV2A and SV2B are functionally redundant and are required for maintaining normal brain function in vertebrates. SV2A and SV2B mediate synaptic transmission by regulating cytoplasmic Ca^{2+} levels in the nerve terminal during repetitive stimulation.

CHROMOSOMAL LOCATION

Genetic locus: SV2A (human) mapping to 1q21.2; Sv2a (mouse) mapping to 3 F2.1.

SOURCE

SV2A (R-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal, luminal region of SV2A of rat origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11939 P, (100 μ g 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

SV2A (R-16) is recommended for detection of SV2A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

SV2A (R-16) is also recommended for detection of SV2A in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SV2A siRNA (h): sc-36575, SV2A siRNA (m): sc-36576, SV2A shRNA Plasmid (h): sc-36575-SH, SV2A shRNA Plasmid (m): sc-36576-SH, SV2A shRNA (h) Lentiviral Particles: sc-36575-V and SV2A shRNA (m) Lentiviral Particles: sc-36576-V.

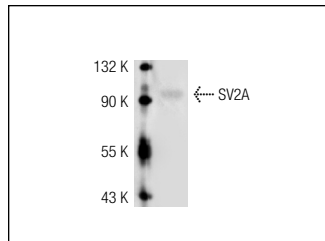
Molecular Weight of SV2A: 93 kDa.

Positive Controls: Mouse brain extract: sc-2253, rat hypothalamus extract or rat cerebellum extract: sc-2398.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



SV2A (R-16): sc-11939. Western blot analysis of SV2A expression in mouse brain tissue extract.

SELECT PRODUCT CITATIONS

1. Dardou, D., et al. 2011. Distribution of SV2C mRNA and protein expression in the mouse brain with a particular emphasis on the basal ganglia system. *Brain Res.* 1367: 130-145.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **SV2A (E-8): sc-376234**, our highly recommended monoclonal alternative to SV2A (R-16).