

SV2C (P-20): sc-11946

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. While SV2A and SV2B are expressed ubiquitously throughout the brain, SV2C displays a more restricted pattern of expression. SV2C is only present on a small subset of synapses in phylogenetically old brain areas, indicating that SV2C could be evolutionary more ancient than SV2A or SV2B. Specifically, SV2C is expressed in the central neuraxis, which includes the striatum, mid-brain, hindbrain and the olfactory bulb. SV2C, whose molecular mass ranges from 80 to 95 kDa due to N-glycosylation, contains cytoplasmic N-terminal and C-terminal domains. The restricted pattern of SV2C expression suggests that it may be used as a specific synaptic marker in the study of degenerative diseases, such as Parkinson's disease.

REFERENCES

1. Buckley, K., et al. 1985. Identification of transmembrane glycoprotein specific for secretory vesicles fo neural and endocrine cells. *J. Cell Biol.* 100: 1284-1294.
2. Lowe, A.W., et al. 1988. Endocrine secretory granules and neuronal synaptic vesicles have three integral membrane proteins in common. *J. Cell Biol.* 106: 51-59.
3. Bajjaleih, S.M., et al. 1993. Brain contains two forms of synaptic vesicle protein 2. *Proc. Natl. Acad. Sci. USA* 90: 2150-2154.
4. Janz, R., et al. 1999. SV2C is a synaptic vesicle protein with an unusually restricted localization: anatomy of a synaptic vesicle protein family. *Neuroscience* 94: 1279-1290.
5. Janz, R., et al. 1999. SV2A and SV2B function as redundant Ca²⁺ regulators in neurotransmitter release. *Neuron* 24: 1003-1016.

CHROMOSOMAL LOCATION

Genetic locus: SV2C (human) mapping to 5q13.3; Sv2c (mouse) mapping to 13.

SOURCE

SV2C (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SV2C of rat 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-11946 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

SV2C (P-20) is recommended for detection of SV2C of mouse, rat and 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)], 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 SV2C siRNA (h): sc-42279 and SV2C siRNA (m): sc-42280.

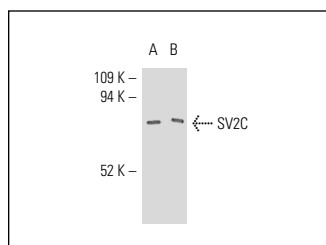
Molecular Weight of SV2C: 80-95 kDa.

Positive Controls: rat brain extract: sc-2392, mouse brain extract: sc-2253, C6 whole cell lysate or SK-N-SH cell lysate: sc-2410.

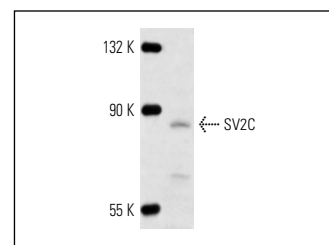
RECOMMENDED SECONDARY REAGENTS

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



SV2C (P-20): sc-11946. Western blot analysis of SV2C expression in rat brain (A) and mouse brain (B) tissue extracts.



SV2C (P-20): sc-11946. Western blot analysis of SV2C expression in C6 whole cell lysate.

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.