

SVOP (G-14): sc-139069

BACKGROUND

SVOP (synaptic vesicle 2-related protein) is a 548 amino acid multi-pass synaptic vesicle membrane protein that belongs to the major facilitator superfamily. Like some of its family members, SVOP has been shown to bind nucleotides. Functioning as a transporter-like protein that localizes to neurotransmitter-containing vesicles, SVOP is one of the first proteins expressed in the developing nervous system. While expressed at detectable levels in endocrine cells, SVOP is present in all brain regions, with particularly high levels in large pyramidal neurons of the cerebral cortex. The gene that encodes SVOP contains 67,796 bases and maps to human chromosome 12q24.11. Encoding over 1,100 genes, chromosome 12 comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

- Allen, T.L., Brothman, A.R., Carey, J.C. and Chance, P.F. 1996. Cytogenetic and molecular analysis in trisomy 12p. *Am. J. Med. Genet.* 63: 250-256.
- Delgado Carrasco, J., Casanova Morcillo, A., Zabalza Alvillos, M. and Ayala Garcés, A. 2001. Achondrogenesis type II-hypochondrogenesis: radiological features. *An. Esp. Pediatr.* 55: 553-557.
- Yokoyama, T., Nakatani, S. and Murakami, A. 2003. A case of Kniest dysplasia with retinal detachment and the mutation analysis. *Am. J. Ophthalmol.* 136: 1186-1188.
- Forzano, F., Lituania, M., Viassolo, A., Superti-Furga, V., Wildhardt, G., Zabel, B. and Faravelli, F. 2007. A familial case of achondrogenesis type II caused by a dominant COL2A1 mutation and "patchy" expression in the mosaic father. *Am. J. Med. Genet. A* 143A: 2815-2820.
- Wainwright, H. and Beighton, P. 2008. Visceral manifestations of hypochondrogenesis. *Virchows Arch.* 453: 203-207.
- Lo, F.S., Luo, J.D., Lee, Y.J., Shu, S.G., Kuo, M.T. and Chiou, C.C. 2009. High resolution melting analysis for mutation detection for PTPN11 gene: applications of this method for diagnosis of Noonan syndrome. *Clin. Chim. Acta* 409: 75-77.
- Benussi, D.G., Costa, P., Zollino, M., Murdolo, M., Petix, V., Carrozzi, M. and Pecile, V. 2009. Trisomy 12p and monosomy 4p: phenotype-genotype correlation. *Genet Test. Mol. Biomarkers* 13: 199-204.
- Chang, W.P. and Südhof, T.C. 2009. SV2 renders primed synaptic vesicles competent for Ca²⁺-induced exocytosis. *J. Neurosci.* 29: 883-897.
- Yao, J. and Bajjalieh, S.M. 2009. SVOP is a nucleotide binding protein. *PLoS ONE* 4: e5315.

CHROMOSOMAL LOCATION

Genetic locus: SVOP (human) mapping to 12q24.11; Svop (mouse) mapping to 5 F.

RESEARCH USE

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

SOURCE

SVOP (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of SVOP 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-139069 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SVOP (G-14) is recommended for detection of SVOP of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with SVOPL.

SVOP (G-14) is also recommended for detection of SVOP in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SVOP siRNA (h): sc-95852, SVOP siRNA (m): sc-153953, SVOP shRNA Plasmid (h): sc-95852-SH, SVOP shRNA Plasmid (m): sc-153953-SH, SVOP shRNA (h) Lentiviral Particles: sc-95852-V and SVOP shRNA (m) Lentiviral Particles: sc-153953-V.

Molecular Weight of SVOP: 61 kDa.

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.

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 or our catalog for detailed protocols and support products.