

TorsinB (V-13): sc-132122

BACKGROUND

TorsinB, also known as TOR1B, DQ1 or FKSG18, is a 336 amino acid protein that localizes to the lumen of endoplasmic reticulum and belongs to the Torsin family. Expressed in a variety of tissues with particularly high levels in adult brain, TorsinB is thought to function as a molecular chaperone that assists in the conformational folding of membrane and secreted proteins. Via its ability to regulate protein folding, TorsinB plays a key role in postnatal developmental events and is essential for proper neurological development. TorsinB contains two PKC (protein kinase C) phosphorylations sites, one ATP binding domain and several conserved cysteines and shares 69% amino acid identity with TorsinA, a related family member. Defects in the gene encoding TorsinB are associated with torsion dystonia, an autosomal dominant neurological disorder that is characterized by debilitating muscle contractions throughout the body.

REFERENCES

- Ozelius, L.J., Hewett, J.W., Page, C.E., Bressman, S.B., Kramer, P.L., Shalish, C., de Leon, D., Brin, M.F., Raymond, D., Corey, D.P., Fahn, S., Risch, N.J., Buckler, A.J., Gusella, J.F. and Breakefield, X.O. 1997. The early-onset torsion dystonia gene (DYT1) encodes an ATP-binding protein. *Nat. Genet.* 17: 40-48.
- Ozelius, L.J., Page, C.E., Klein, C., Hewett, J.W., Mineta, M., Leung, J., Shalish, C., Bressman, S.B., de Leon, D., Brin, M.F., Fahn, S., Corey, D.P. and Breakefield, X.O. 1999. The TOR1A (DYT1) gene family and its role in early onset torsion dystonia. *Genomics* 62: 377-384.
- Konakova, M., Huynh, D.P., Yong, W. and Pulst, S.M. 2001. Cellular distribution of TorsinA and TorsinB in normal human brain. *Arch. Neurol.* 58: 921-927.
- Konakova, M. and Pulst, S.M. 2001. Immunocytochemical characterization of Torsin proteins in mouse brain. *Brain Res.* 922: 1-8.
- O'Farrell, C., Lockhart, P.J., Lincoln, S., De Lucia, M., Singleton, A.B., Dickson, D.W. and Cookson, M.R. 2004. Biochemical characterization of TorsinB. *Brain Res. Mol. Brain Res.* 127: 1-9.
- Hewett, J.W., Kamm, C., Boston, H., Beauchamp, R., Naismith, T., Ozelius, L., Hanson, P.I., Breakefield, X.O. and Ramesh, V. 2004. TorsinB—perinuclear location and association with TorsinA. *J. Neurochem.* 89: 1186-1194.
- Vasudevan, A., Breakefield, X.O. and Bhide, P.G. 2006. Developmental patterns of TorsinA and TorsinB expression. *Brain Res.* 1073-1074: 139-145.
- Bahn, E., Siegert, S., Pfander, T., Kramer, M.L., Schulz-Schaeffer, W.J., Hewett, J.W., Breakefield, X.O., Hedreen, J.C. and Rostásy, K.M. 2006. TorsinB expression in the developing human brain. *Brain Res.* 1116: 112-119.
- Kamm, C., Asmus, F., Mueller, J., Mayer, P., Sharma, M., Muller, U.J., Beckert, S., Ehling, R., Illig, T., Wichmann, H.E., Poewe, W., Mueller, J.C. and Gasser, T. 2006. Strong genetic evidence for association of TOR1A/TOR1B with idiopathic dystonia. *Neurology* 67: 1857-1859.

CHROMOSOMAL LOCATION

Genetic locus: TOR1B (human) mapping to 9q34.11; Tor1b (mouse) mapping to 2 B.

SOURCE

TorsinB (V-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TorsinB 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-132122 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TorsinB (V-13) is recommended for detection of TorsinB 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).

TorsinB (V-13) is also recommended for detection of TorsinB in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for TorsinB siRNA (h): sc-92951, TorsinB siRNA (m): sc-154560, TorsinB shRNA Plasmid (h): sc-92951-SH, TorsinB shRNA Plasmid (m): sc-154560-SH, TorsinB shRNA (h) Lentiviral Particles: sc-92951-V and TorsinB shRNA (m) Lentiviral Particles: sc-154560-V.

Molecular Weight of TorsinB: 38 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

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.

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.