

SLC6A2 (K-15): sc-51157

BACKGROUND

The norepinephrine transporter encoded by SLC6A2 is a multi-pass membrane protein that terminates noradrenergic signaling by rapid re-uptake of neuronally released norepinephrine (NE) into presynaptic terminals. It belongs to the sodium: neurotransmitter symporter (SNF) family and interacts with PRK-CABP. The norepinephrine transporter regulates NE-mediated behavioral and physiological effects, including mood, depression, feeding behavior, cognition, regulation of blood pressure and heart rate. Consequently, the norepinephrine transporter is the target of several drugs used in the treatment or diagnosis of disorders, including depression, attention-deficit hyperactivity disorder and feeding disturbances. Defects in SLC6A2, the gene encoding the norepinephrine transporter, can cause orthostatic intolerance, a syndrome that is associated with postural tachycardia and is characterized by lightheadedness, fatigue, altered mentation and syncope.

REFERENCES

1. Fukumitsu, N., Suzuki, M., Fukuda, T., Kiyono, Y., Kajiyama, S. and Saji, H. 2006. Reduced 125I-meta-iodobenzylguanidine uptake and norepinephrine transporter density in the hearts of mice with MPTP-induced parkinsonism. *Nucl. Med. Biol.* 33: 37-42.
2. Miner, L.H., Jedema, H.P., Moore, F.W., Blakely, R.D., Grace, A.A. and Sesack, S.R. 2006. Chronic stress increases the plasmalemmal distribution of the norepinephrine transporter and the coexpression of tyrosine hydroxylase in norepinephrine axons in the prefrontal cortex. *J. Neurosci.* 26: 1571-1578.
3. Matsunaga, W., Isobe, K. and Shirokawa, T. 2006. Involvement of neurotrophic factors in aging of noradrenergic innervations in hippocampus and frontal cortex. *Neurosci. Res.* 54: 313-318.
4. Smith, H.R., Beveridge, T.J. and Porrino, L.J. 2006. Distribution of norepinephrine transporters in the non-human primate brain. *Neuroscience* 138: 703-714.
5. Gilsbach, R., Faron-Górecka, A., Rogóz, Z., Brüß, M., Caron, M.G., Dziedzicka-Wasylewska, M. and Bönisch, H. 2006. Norepinephrine transporter knockout-induced receptors. *J. Neurochem.* 96: 1111-1120.
6. Cases-Thomas, M.J., Masters, J.J., Walter, M.W., Campbell, G., Haughton, L., Gallagher, P.T., Dobson, D.R., Mancuso, V., Bonnier, B., Giard, T., Defrance, T., Vanmarsenille, M., Ledgard, A., White, C., Ouwerkerk-Mahadevan, S., Brunelle, F.J., et al. 2006. Discovery of novel and selective tertiary alcohol containing inhibitors of the Norepinephrine transporter. *Bioorg. Med. Chem. Lett.* 16: 2022-2025.
7. Yamashita, M., Fukushima, S., Shen, H.W., Hall, F.S., Uhl, G.R., Numachi, Y., Kobayashi, H. and Sora, I. 2006. Norepinephrine transporter blockade can normalize the prepulse inhibition deficits found in dopamine transporter knockout mice. *Neuropsychopharmacology* 31: 2132-2139.

CHROMOSOMAL LOCATION

Genetic locus: SLC6A2 (human) mapping to 16q12.2; Slc6a2 (mouse) mapping to 8 C5.

SOURCE

SLC6A2 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of norepinephrine transporter of mouse 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-51157 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SLC6A2 (K-15) is recommended for detection of norepinephrine transporter 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).

SLC6A2 (K-15) is also recommended for detection of norepinephrine transporter in additional species, including avian.

Suitable for use as control antibody for SLC6A2 siRNA (h): sc-61215, SLC6A2 siRNA (m): sc-61216, SLC6A2 shRNA Plasmid (h): sc-61215-SH, SLC6A2 shRNA Plasmid (m): sc-61216-SH, SLC6A2 shRNA (h) Lentiviral Particles: sc-61215-V and SLC6A2 shRNA (m) Lentiviral Particles: sc-61216-V.

Molecular Weight of SLC6A2: 58 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.

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.