

# GABA T-3 (N-15): sc-99420

## BACKGROUND

As glutamate decarboxylases, GAD-65 and GAD-67 function to catalyze the production of GABA ( $\gamma$ -aminobutyric acid). In the central nervous system, GABA functions as the main inhibitory transmitter by increasing the chlorine conductance that inhibits neuronal firing. GABA has been shown to activate both ionotropic (GABA<sub>A</sub>) and metabotropic (GABA<sub>B</sub>) receptors, as well as a third class of receptors called GABA<sub>C</sub>. Both GABA<sub>A</sub> and GABA<sub>C</sub> are ligand-gated ion channels, however, they are structurally and functionally distinct. GABA transporters have also been identified and include GABA T-1, GABA T-2 and GABA T-3 (also designated GAT-1, -2 and -3). GABA T-3 is a 632 amino acid membrane protein that is expressed in brain, specifically in glial cells. The GABA transporters function to terminate GABA action by actively pumping GABA back into presynaptic terminals.

## REFERENCES

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3. Melone, M., et al. 2005. Neuronal localization of the GABA transporter GAT-3 in human cerebral cortex: a procedural artifact? *J. Chem. Neuroanat.* 30: 45-54.
4. Galvan, A., et al. 2005. GABAergic modulation of the activity of globus pallidus neurons in primates: *in vivo* analysis of the functions of GABA receptors and GABA transporters. *J. Neurophysiol.* 94: 990-1000.
5. Kinney, G.A. 2005. GAT-3 transporters regulate inhibition in the neocortex. *J. Neurophysiol.* 94: 4533-4537.
6. Birnbaum, A.D., et al. 2005. Cloning, immunolocalization, and functional expression of a GABA transporter from the retina of the skate. *Vis. Neurosci.* 22: 211-223.
7. Lee, T.S., et al. 2006. GAT-1 and GAT-3 expression are differently localized in the human epileptogenic hippocampus. *Acta Neuropathol.* 111: 351-363.
8. Fülep, G.H., et al. 2006. New highly potent GABA uptake inhibitors selective for GAT-1 and GAT-3 derived from (R)- and (S)-proline and homologous pyrrolidine-2-alkanoic acids. *Eur. J. Med. Chem.* 41: 809-824.
9. Byun, K., et al. 2006. Alteration of the glutamate and GABA transporters in the hippocampus of the Niemann-Pick disease, type C mouse using proteomic analysis. *Proteomics* 6: 1230-1236.

## CHROMOSOMAL LOCATION

Genetic locus: SLC6A11 (human) mapping to 3p25.3.

## SOURCE

GABA T-3 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of GABA T-3 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-99420 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ABA T-3 (N-15) is recommended for detection of GABA T-3 of human and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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); non cross-reactive with GABA T-1 and GABA T-2.

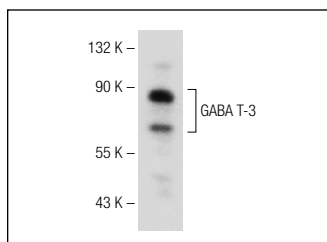
GABA T-3 (N-15) is also recommended for detection of GABA T-3 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for GABA T-3 siRNA (h): sc-41962, GABA T-3 shRNA Plasmid (h): sc-41962-SH and GABA T-3 shRNA (h) Lentiviral Particles: sc-41962-V.

Molecular Weight of GABA T-3: 70 kDa.

Positive Controls: rat cerebellum extract: sc-2398 or rat brain extract: sc-2392.

## DATA



GABA T-3 (N-15): sc-99420. Western blot analysis of GABA T-3 expression in rat brain tissue extract.

## 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.

**MONOS**  
Satisfaction  
Guaranteed

Try **GABA T-3 (G-6): sc-376001**, our highly recommended monoclonal alternative to GABA T-3 (N-15).