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# GABA<sub>A</sub> R $\alpha$ 1 (h): 293T Lysate: sc-171608

## BACKGROUND

GAD-65 and GAD-67, glutamate decarboxylases function to catalyze the production of GABA ( $\gamma$ -aminobutyric acid). In the central nervous system GABA functions as the main inhibitory transmitter by increasing a Cl<sup>-</sup> 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. Members of the GABA<sub>A</sub> receptor family include GABA<sub>A</sub> R $\alpha$ 1-6, GABA<sub>A</sub> R  $\beta$ 1-3, GABA<sub>A</sub> R $\gamma$ 1-3, GABA<sub>A</sub> R $\delta$ , GABA<sub>A</sub> R $\epsilon$ , GABA<sub>A</sub> R $\rho$ 1 and GABA<sub>A</sub> R $\rho$ 2. The GABA<sub>B</sub> family is composed of GABA<sub>B</sub> R1 $\alpha$  and GABA<sub>B</sub> R1 $\beta$ . 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). The GABA transporters function to terminate GABA action.

## REFERENCES

- Nelson, H., et al. 1990. Cloning of the human brain GABA transporter. *FEBS Lett.* 269: 181-184.
- Cherubini, E., et al. 1991. GABA: an excitatory transmitter in early post-natal life. *Trends Neurosci.* 14: 515-519.
- Borden, L.A., et al. 1992. Molecular heterogeneity of the  $\gamma$ -aminobutyric acid (GABA) transport system. Cloning of two novel high affinity GABA transporters from rat brain. *J. Biol. Chem.* 267: 21098-21104.
- Dirx, R., Jr., et al. 1995. Targeting of the 67 kDa isoform of glutamic acid decarboxylase to intracellular organelles is mediated by its interaction with the NH<sub>2</sub>-terminal region of the 65 kDa isoform of glutamic acid decarboxylase. *J. Biol. Chem.* 270: 2241-2246.
- Lukasiewicz, P.D. 1996. GABA<sub>C</sub> receptors in the vertebrate retina. *Mol. Neurobiol.* 12: 181-194.
- Kaupmann, K., et al. 1997. Expression cloning of GABA<sub>B</sub> receptors uncovers similarity to metabotropic glutamate receptors. *Nature* 386: 239-246.
- Korpi, E.R., et al. 1997. GABA<sub>A</sub>-receptor subtypes: clinical efficiency and selectivity of benzodiazepine site ligands. *Ann. Med.* 29: 275-282.

## CHROMOSOMAL LOCATION

Genetic locus: GABRA1 (human) mapping to 5q34.

## PRODUCT

GABA<sub>A</sub> R $\alpha$ 1 (h): 293T Lysate represents a lysate of human GABA<sub>A</sub> R $\alpha$ 1 transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

GABA<sub>A</sub> R $\alpha$ 1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive GABA<sub>A</sub> R $\alpha$ 1 antibodies. Recommended use: 10-20  $\mu$ l per lane.

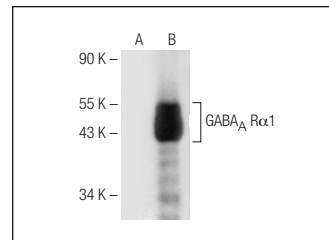
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

GABA<sub>A</sub> R $\alpha$ 1-6 (E-8): sc-376282 is recommended as a positive control antibody for Western Blot analysis of enhanced human GABA<sub>A</sub> R $\alpha$ 1 expression in GABA<sub>A</sub> R $\alpha$ 1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



GABA<sub>A</sub> R $\alpha$ 1-6 (E-8): sc-376282. Western blot analysis of GABA<sub>A</sub> R $\alpha$ 1 expression in non-transfected: sc-117752 (A) and human GABA<sub>A</sub> R $\alpha$ 1 transfected: sc-171608 (B) 293T whole cell lysates.

## RESEARCH USE

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