SANTA CRUZ BIOTECHNOLOGY, INC.

$GABA_A$ Rθ (H-25): sc-133600

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

γ-aminobutyric acid type A ($GABA_A$) receptors mediate inhibitory neurotransmission in the mammalian central nervous system. The receptor exists as a pentameric ion channel composed by heteromeric combinations of α, β, γ, δ, ε, τ or π subunits. Only specific subunit combinations produce viable receptors, while others never translocate to the cell surface from the ER where they are synthesized, and subsequently degraded. The τ subunit forms a receptor in combination with α3 subunits in monoaminergic cell groups. These receptors, found especially in the septum, preoptic areas, hypothalamic nuclei, amygdala and thalamus, likely have unique pharmacological properties linked to their expression in this particular cell type and not cholinergic cell groups, and may play a role in opiate withdrawl symptoms.

REFERENCES

1. Bonnert, T.P., McKernan, R.M., Farrar, S., le Bourdellès, B., Heavens, R.P., Smith, D.W., Hewson, L., Rigby, M.R., Sirinathsinghji, D.J., Brown, N., Wafford, K.A. and Whiting, P.J. 1999. τ, a novel γ-aminobutyric acid type A receptor subunit. Proc. Natl. Acad. Sci. USA 96: 9891-9896.
2. Heikkilä, A.T., Echenko, O., Uusi-Oukari, M., Sinkkonen, S.T. and Korpi, E.R. 2001. Morphine withdrawal increases expression of $GABA_A$ receptor ε subunit mRNA in locus coeruleus neurons. Neuroreport 12: 2981-2985.
3. Moragues, N., Ciofi, P., Tramu, G. and Garret, M. 2002. Localisation of $GABA_A$ receptor ε-subunit in cholinergic and aminergic neurones and evidence for co-distribution with the τ-subunit in rat brain. Neuroscience 111: 657-669.
4. Bollan, K., Robertson, L.A., Tang, H. and Connolly, C.N. 2003. Multiple assembly signals in γ-aminobutyric acid (type A) receptor subunits combine to drive receptor construction and composition. Biochem. Soc. Trans. 31: 875-879.

CHROMOSOMAL LOCATION

Genetic locus: GABRQ (human) mapping to Xq28; Gabrq (mouse) mapping to X A7.3.

SOURCE

$GABA_A$ Rθ (H-25) is an affinity purified rabbit polyclonal antibody raised against synthetic $GABA_A$ Rθ peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

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.

APPLICATIONS

$GABA_A$ Rθ (H-25) is recommended for detection of $GABA_A$ Rθ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for $GABA_A$ Rθ siRNA (h): sc-105384, $GABA_A$ Rθ siRNA (m): sc-155896, $GABA_A$ Rθ shRNA Plasmid (h): sc-105384-SH, $GABA_A$ Rθ shRNA Plasmid (m): sc-155896-SH, $GABA_A$ Rθ shRNA (h) Lentiviral Particles: sc-105384-V and $GABA_A$ Rθ shRNA (m) Lentiviral Particles: sc-155896-V.

Molecular Weight (predicted) of $GABA_A$ Rθ: 72 kDa.

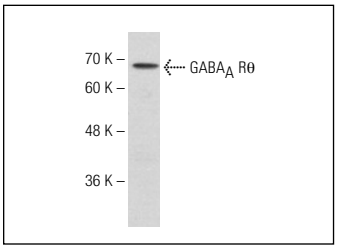
Molecular Weight (observed) of $GABA_A$ Rθ: 68 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



$GABA_A$ Rθ (H-25): sc-133600. Western blot analysis of $GABA_A$ Rθ expression in Jurkat whole cell lysate.

RESEARCH USE

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