

GABA_A Rθ (P-14): sc-27948

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 withdrawal symptoms.

REFERENCES

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2. Bonnert, T.P., et al. 1999. τ, a novel γ-aminobutyric acid type A receptor subunit. *Proc. Natl. Acad. Sci. USA* 96: 9891-9896.
3. White, J.A., et al. 2000. Networks of interneurons with fast and slow γ-aminobutyric acid type A (GABA_A) kinetics provide substrate for mixed gamma-theta rhythm. *Proc Natl Acad Sci USA* 97: 8128-8133.
4. Heikkila, A.T., et al. 2001. Morphine withdrawal increases expression of GABA_A receptor epsilon subunit mRNA in locus coeruleus neurons. *Neuroreport* 12: 2981-2985.
5. Moragues, N., et al. 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.
6. Bollan, K., et al. 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.
7. Hajos, M., et al. 2004. Modulation of septo-hippocampal τ activity by GABA_A receptors: an experimental and computational approach. *Neuroscience* 126: 599-610.

CHROMOSOMAL LOCATION

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

SOURCE

GABA_A Rθ (P-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GABA_A θ of human origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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-27948 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GABA_A Rθ (P-14) is recommended for detection of precursor and mature GABA_A θ 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).

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.

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.

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.