

Product Information

Anti-GABA_A Receptor (β₂ subunit), Cytosolic Loop Developed in Rabbit, Affinity Isolated Antibody

Product Number **G 9544**

Product Description

Anti-GABA_A Receptor (β₂ subunit), cytosolic loop, is developed in rabbit using a fusion protein of MBP with the amino acid sequence representing the cytosolic loop of the rat GABA_A receptor (β₂ subunit) as immunogen. The antiserum is affinity purified.

The antibody specifically detects 50 to 53 kDa GABA_A receptor β₂ subunit. It has been used in immunoblotting and immunoprecipitation applications.

γ-aminobutyric acid (GABA) is the primary inhibitory neurotransmitter in the central nervous system, causing a hyperpolarization of the membrane through the opening of a Cl⁻ channel associated with the GABA_A-Receptor (GABA_A-R) subtype. GABA_A-Rs are important therapeutic targets for a range of sedative, anxiolytic, and hypnotic agents and are implicated in several diseases including epilepsy, anxiety, depression, and substance abuse. The GABA_A-R is a multimeric subunit complex. To date six αs, four βs and four γs, plus alternative splicing variants of some of these subunits, have been identified. Injection in oocytes or mammalian cell lines of cRNA coding for α and β subunits results in the expression of functional GABA_A-Rs sensitive to GABA. However, coexpression of a γ subunit is required for benzodiazepine modulation. The various effects of benzodiazepines in brain may also be mediated via different α subunits of the receptor. Lastly, phosphorylation of β subunits of the receptor has been shown to modulate GABA_A-R function. Developmental changes in the GABA_A receptor subunit composition and the resulting pharmacology will be important in understanding the type of GABA-mediated transmission that takes place between neuronal contacts in the neonatal and, ultimately, the mature brain.

Reagent

Supplied in 100 μl of 10 mM HEPES, pH 7.5, 150 mM NaCl, 100 μg/ml BSA and 50% glycerol

Storage/Stability

Store at -20 °C. Due to the presence of 50% glycerol the antibody will remain in solution. For extended storage, centrifuge the vial briefly before opening and prepare working aliquots. The antibody is stable for at least 24 months when stored at -20 °C. Defrosted aliquots in use should be stored at 4 °C. Avoid repeated freezing and thawing.

Product Profile

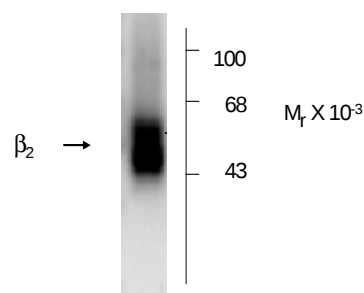
The supplied reagent is sufficient for 10 immunoblots.

A recommended working dilution of 1:1000 – 1:2000 is determined by immunoblotting on rat brain membrane fractions. For immunoprecipitation use 20 μg antibody for 150 μL dodecylsulfate extracts of rat forebrains.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by a titration test.

Results

Anti-β₂ subunit of the GABA_A-R



Immunoblot analysis of rat brain (hippocampal) lysates using approximately 5 – 7 μg of tissue per slot. Blots were incubated with anti-GABA_A-R, β₂-subunit, cytosolic loop, diluted 1:1000 overnight at 4 °C. The antibody labelled the ~50 – 53 kDa β₂ subunit of the GABA_A-R.

References

1. Zezula, J., et al., Separation of α_1 , α_2 and α_3 subunits of the GABA_A-benzodiazepine receptor complex by immunoaffinity chromatography. Brain Res., **563**, 325-328 (1991).
2. Bencsits, E., et al., A significant part of native γ -aminobutyric acid_A receptors containing α_4 subunits do not contain γ or δ subunits. J. Biol. Chem., **274**, 19613-19616. (1999).
3. Nusser, Z., et al., Alterations in the expression of GABA_A receptor subunits in cerebellar granule cells after the disruption of the α_6 subunit gene. Eur. J. Neurosci., **11**, 1685-1697 (1999).

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