

PRODUCT INFORMATION

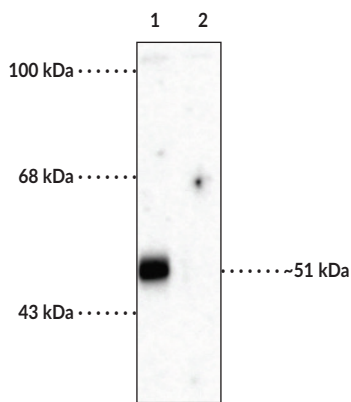


GABA_A Receptor α_2 Subunit Polyclonal Antibody Item No. 29268

Overview and Properties

Contents: This vial contains 100 μ l of affinity-purified polyclonal antibody from pooled serum.
Synonyms: γ -Aminobutyric Acid Receptor Subunit α_2 , GABA_A Receptor Subunit α_2 , GABRA2
Immunogen: Fusion protein from the cytoplasmic loop of the α_2 subunit of the rat GABA_A receptor
Molecular Weight: ~51 kDa
Species Reactivity: (+) Mouse
Storage: -20°C (as supplied)
Stability: \geq 1 year
Storage Buffer: 10 mM HEPES, pH 7.5, with 150 mM sodium chloride, 100 μ g/ml BSA, and 50% glycerol
Host: Rabbit
Applications: Immunocytochemistry (ICC) and Western blot (WB); the recommended starting dilution is 1:1,000 for ICC and WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Lane 1: WT animals
Lane 2: α_2 KO animals

WB of mouse brain lysates from wild-type (WT) and α_2 knockout (KO) animals showing specific immunolabeling of the ~51 kDa α_2 subunit of the GABA_A receptor. The labeling was absent from a lysate prepared from α_2 KO animals.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

GABA_A receptors are ligand-gated chloride channels that mediate the effects of the inhibitory neurotransmitter GABA in the CNS.^{1,2} They are postsynaptic heteropentameric receptors that contain protein subunits from the following isoforms: α_{1-6} , β_{1-4} , γ_{1-3} , δ , ϵ , π , θ , and ρ_{1-3} , arranged around a central pore. Phasic inhibitory synaptic transmission is regulated by $\alpha_1\beta_2\gamma_2$ subunit-containing GABA_A receptors, the major isoform found in the brain.^{2,3} The α subunit of GABA_A receptors interfaces with a β subunit to form the GABA binding site that initiates GABA-induced action potentials and forms the benzodiazepine binding site with the γ subunit. Activation of GABA_A receptors with the α_2/α_3 -selective GABA_A receptor agonist SL651498, but not the α_5/α_3 selective GABA_A receptor positive allosteric modulator NS 11394 (Item No. 23872), suppresses cortical spreading depression, the underlying cause of migraine, in isolated chick retina.⁴ Point mutation of the histidine residue at position 101 (H101R) of the GABA_A α_2 subunit inhibits muscle relaxation and the anxiolytic-like effects of the benzodiazepine diazepam in mice.¹ Expression of GABRA2, which encodes the α_2 subunit isoform, is upregulated in ipsilateral, but not contralateral, perilesional tissue in a rat model of cortical ischemia-reperfusion injury.⁵ Cayman's GABA_A Receptor α_2 Subunit Polyclonal Antibody can be used for immunocytochemistry (ICC) and Western blot (WB) applications. The antibody recognizes the GABA_A receptor α_2 subunit at approximately 51 kDa from murine samples.

References

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2. Hirose, S. Mutant GABA_A receptor subunits in genetic (idiopathic) epilepsy. *Prog. Brain Res.* **213**, 55-85 (2014).
3. Wongsamitkul, N., Maldifassi, M.C., Simeone, X., et al. α subunits in GABA_A receptors are dispensable for GABA and diazepam action. *Sci. Rep.* **7(1)**, 15498 (2017).
4. Wang, M., Li, Y., and Lin, Y. GABA_A receptor α_2 subtype activation suppresses retinal spreading depression. *Neuroscience* **298**, 137-144 (2015).
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