

PRODUCT INFORMATION

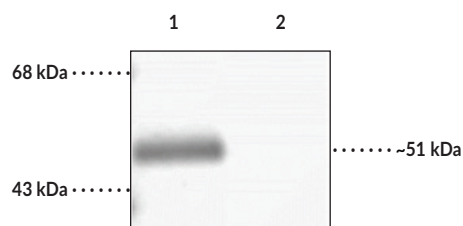


GABA_A Receptor α_3 Subunit (N-Term) Polyclonal Antibody Item No. 29269

Overview and Properties

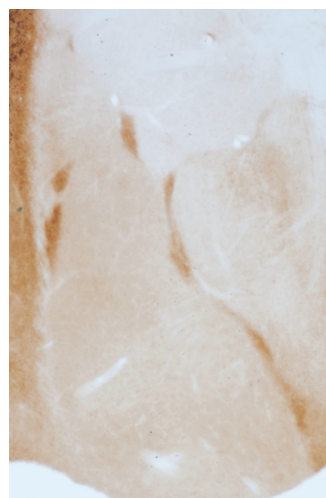
Contents: This vial contains 100 μ l of affinity-purified polyclonal antibody.
Synonyms: γ -Aminobutyric Acid Receptor Subunit α_3 , GABA_A Receptor Subunit α_3 , GABRA3
Immunogen: Synthetic peptide from the N-terminal region of the α_3 subunit of the rat GABA_A receptor
Molecular Weight: ~51 kDa
Species Reactivity: (+) Mouse, rat
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: Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution for IHC is 1:100 and 1:1,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: WT animals
Lane 2: α_3 KO animals

WB of mouse brain lysates from wild-type (WT) and α_3 knockout (KO) animals showing specific immunolabeling of the ~51 kDa α_3 subunit of the GABA_A receptor. The labeling was absent from a lysate prepared from α_3 KO animals.



Immunostaining of rat amygdala showing labeling of GABA_A α_3 subunit.

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. GABA_A α_3 subunit expression is decreased in neocortical tissue samples surgically isolated from patients with medically refractory temporal lobe epilepsy.⁴ Knockdown of *Gabra3*, which encodes the α_3 subunit isoform, prevents stress-induced colonic inflammation in mice.⁵ Cayman's GABA_A Receptor α_3 Subunit (N-Term) Polyclonal Antibody can be used for immunohistochemistry (IHC) and Western blot (WB) applications. The antibody recognizes the GABA_A receptor α_3 subunit at approximately 51 kDa from mouse and rat samples.

References

1. Crestani, F. and Rudolph, U. Behavioral functions of GABA_A receptor subtypes - the Zurich experience. *Adv. Pharmacol.* **72**, 37-51 (2015).
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. Loup, F., Picard, F., Andre, V.M., *et al.* Altered expression of β_3 -containing GABA_A receptors in the neocortex of patients with focal epilepsy. *Brain* **129(Pt 12)**, 3277-3289 (2006).
5. Seifi, M., Rodaway, S., Rudolph, U., *et al.* GABA_A receptor subtypes regulate stress-induced colon inflammation in mice. *Gastroenterology* **155(3)**, 852-864 (2018).

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