

PRODUCT INFORMATION

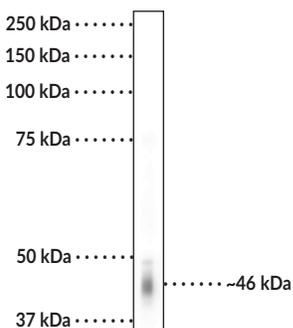


GABA_A Receptor γ_2 Subunit Polyclonal Antibody Item No. 29276

Overview and Properties

Contents:	This vial contains 100 μ l of affinity-purified polyclonal antibody from pooled serum.
Synonyms:	γ -Aminobutyric Acid Receptor Subunit γ_2 , GABA _A Receptor Subunit γ_2 , GABRG2
Immunogen:	Fusion protein from the cytoplasmic loop of the γ_2 subunit of the rat GABA _A receptor
Molecular Weight:	~46 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 1:300 and 1:1,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



WB of mouse whole brain lysate showing specific immunolabeling of the ~46 kDa γ_2 subunit of GABA_A Receptor.

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 γ_2 subunit is the most abundant subunit in the brain and is required for clustering and postsynaptic localization of α_1 or α_2 subunit-containing GABA_A receptors in mouse brain.⁴ Mutations in *GABRG2*, the gene encoding the γ_2 subunit, have been found in patients with childhood absence epilepsy (CAE), genetic epilepsy with febrile seizures plus (GEFS+), Dravet syndrome, and idiopathic genetic generalized epilepsy (GGE).² Cayman's GABA_A Receptor γ_2 Subunit Polyclonal Antibody can be used for immunohistochemistry (IHC) and Western blot (WB) applications. The antibody recognizes the GABA_A receptor γ_2 subunit at approximately 46 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. Essrich, C., Lorez, M., Benson, J.A., *et al.* Postsynaptic clustering of major GABA_A receptor subtypes requires the γ_2 subunit and gephyrin. *Nat. Neurosci.* **1(7)**, 563-571 (1998).