

PRODUCT INFORMATION

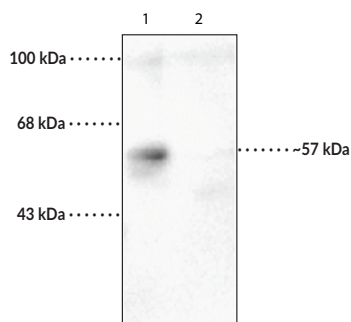


GABA_A Receptor α_6 Subunit Polyclonal Antibody Item No. 29272

Overview and Properties

Contents:	This vial contains 100 μ l of affinity-purified rabbit polyclonal antibody.
Synonyms:	γ -Aminobutyric Acid Receptor Subunit α_6 , γ -Aminobutyric Acid (GABA) A Receptor, α_6 , GABA _A Receptor Subunit α_6
Immunogen:	Fusion protein from the cytoplasmic loop of the α_6 subunit of the rat GABA _A receptor
Molecular Weight:	~57 kDa
Species Reactivity:	(+) Mouse and rat; other species not tested
Form:	Liquid
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 BSA per ml, and 50% glycerol
Host:	Rabbit
Applications:	Western blot (WB); the recommended starting dilution is 1:1,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Lane 1: Mouse forebrain lysates from wild type
Lane 2: Mouse forebrain lysates from α_6 -knockout

WB of mouse forebrain lysates from wild type (WT) and α_6 -knockout (K/O) animals showing specific immunolabeling of the ~57 kDa α_6 -subunit of the GABA_A-R. The labeling was absent from a lysate prepared from α_6 -knockout 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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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

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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 contains 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. The GABA_A receptor α_6 subunit is expressed in granule cells of the cerebellum and cochlear nucleus.⁴ Expression of *GABRA6*, which encodes the α_6 subunit isoform, is decreased in withdrawal seizure-prone, but not withdrawal seizure-resistant, mice after chronic ethanol administration. Point mutation of the arginine residue at position 100 (R100Q) of the GABA_A receptor α_6 subunit increases sensitivity to diazepam and ethanol in rats and humans.⁵ Cayman's GABA_A Receptor α_6 Subunit Polyclonal Antibody can be used for Western blot (WB) applications. The antibody recognizes the GABA_A receptor α_6 subunit at approximately 57 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. Loh, E.-W. and Ball, D. Role of the GABA_A β_2 , GABA_A α_6 , GABA_A α_1 and GABA_A γ_2 receptor subunit genes cluster in drug responses and the development of alcohol dependence. *Neurochem. Int.* **37(5-6)**, 413-423 (2000).
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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
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