Mouse/Rat/Bovine $GABA_A$ R α1 N-Terminus Antibody

Antigen Affinity-purified Polyclonal Rabbit IgG
Catalog Number: PPS023

DESCRIPTION

Species Reactivity	Mouse/Rat/Bovine
Specificity	Mouse and rat ~51 kDa $GABA_A$ R α1 subunit, N-Terminus
Source	Polyclonal Rabbit IgG
Purification	Antigen Affinity-purified
Immunogen	N-terminus peptide of $GABA_A$ R α1 subunit conjugated to keyhole limpet hemocyanin (KLH)
Formulation	100 µL in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA and 50% glycerol. See Certificate of Analysis for details.

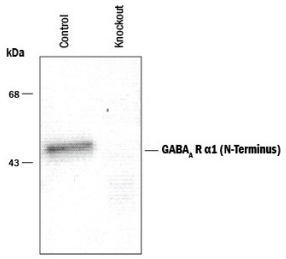
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1:1000 dilution	See Below

DATA

Western Blot



Detection of $GABA_A$ R α1 N-Terminus by Western Blot Western blot of forebrain lysates from wildtype and α1 knockout animals, using approximately 5 - 7 µg of tissue per lane. Blots were incubated overnight at 2 - 8° C with anti-$GABA_A$ R, α1 subunit, N-Terminus diluted 1:1000. The antibody labeled the ~51 kDa α1 subunit of the $GABA_A$ R (Control). The labeling was absent from a lysate prepared from α1 knockout animals.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	For long-term storage, ≤ -20° C is recommended. Product is stable at ≤ -20° C for at least 1 year.

BACKGROUND

$GABA_A$ (γ-aminobutyric acid-type A) receptors are members of the cysteine-loop family of neurotransmitter-gated ion channels. GABA binding to A-type receptors induces anion-selective ion channel opening. These receptors are the principal fast inhibitory neurotransmitter receptors in the CNS. $GABA_A$ receptors are heteropentamer combinations of seven subunit types; α, β, γ, δ, ε, θ, and π. Three subunits, α, β, and γ, have at least three separate gene products in mammals, and typical $GABA_A$ receptors have some combination of α, β, and γ subunits. The rat α1 isoform is a 50 - 52 kDa, 428 amino acid (aa), 4 transmembrane protein with two terminal extracellular regions. The ligand-binding region is in the N-terminus (aa 15 - 222). As with many receptors, phosphorylation is used as a regulatory mechanism. CaM kinase II is known to phosphorylate the α1 subunit and regulate benzodiazepine binding. α1 subunits are particularly abundant in the cerebellum and may contribute to GABA receptor distribution. In the hippocampus and amygdala, the α1 subunit may contribute to amnesia.

References:

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2. Akabas, M.H. (2004) Int. Rev. Neurobiol. 62:1.
3. Churn, S.B. et al. (2002) J. Neurochem. 82:1065.
4. Kralic, J.E. et al. (2006) J. Comp. Neurol. 495:408.
5. Sonner, J.M. et al. (2006) Mol. Pharmacol. 68:61.

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