

**GABAA Receptor,  $\alpha$ 1-Subunit, N-Terminus Antibody**  
**Affinity purified rabbit polyclonal antibody**  
**Catalog # AN1036****Specification**

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**GABAA Receptor,  $\alpha$ 1-Subunit, N-Terminus Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P62813</a>
Reactivity	Mouse, Rat
Predicted	Bovine, Human, Monkey
Host	Rabbit
Clonality	polyclonal
Calculated MW	51 KDa

**GABAA Receptor,  $\alpha$ 1-Subunit, N-Terminus Antibody - Additional Information**

Gene ID	29705
Gene Name	GABRA1
<b>Other Names</b>	
Gamma-aminobutyric acid receptor subunit alpha-1, GABA(A) receptor subunit alpha-1, Gabra1, Gabra-1	

**Target/Specificity**

Synthetic peptide corresponding to amino acid residues from the N-terminal region conjugated to KLH.

**Dilution**

WB~~ 1:1000

**Format**

Prepared from rabbit serum by affinity purification using a column to which the peptide immunogen was coupled.

**Antibody Specificity**

Specific for the ~51k  $\alpha$ 1-subunit of the GABAA receptor in Western blots of rat brain. Labeling is absent in  $\alpha$ 1-subunit knockout animals.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

GABAA Receptor,  $\alpha$ 1-Subunit, N-Terminus Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Shipping**

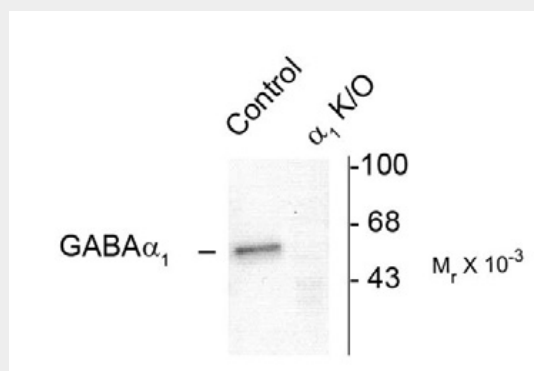
Blue Ice

## GABAA Receptor, $\alpha 1$ -Subunit, N-Terminus Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## GABAA Receptor, $\alpha 1$ -Subunit, N-Terminus Antibody - Images



Western blot of mouse forebrain lysates from Wild Type (Control) and  $\alpha 1$ -knockout ( $\alpha 1$ -K/O) animals showing specific immunolabeling of the ~51k  $\alpha 1$ -subunit of the GABAA-R. The labeling was absent from a lysate prepared from  $\alpha 1$ -knockout animals.

## GABAA Receptor, $\alpha 1$ -Subunit, N-Terminus Antibody - Background

Gamma-aminobutyric acid (GABA) is the primary inhibitory neurotransmitter in the central nervous system, causing a hyperpolarization of the membrane through the opening of a Cl<sup>-</sup> channel associated with the GABAA receptor (GABAA-R) subtype. GABAA-Rs are important therapeutic targets for a range of sedative, anxiolytic, and hypnotic agents and are implicated in several diseases including epilepsy, anxiety, depression, and substance abuse. The GABAA-R is a multimeric subunit complex. To date six  $\alpha$ s, four  $\beta$ s and four  $\gamma$ s, plus alternative splicing variants of some of these subunits, have been identified (Olsen and Tobin, 1990; Whiting et al., 1999; Ogris et al., 2004). Injection in oocytes or mammalian cell lines of cRNA coding for  $\alpha$ - and  $\beta$ -subunits results in the expression of functional GABAA-Rs sensitive to GABA. However, coexpression of a  $\gamma$ -subunit is required for benzo-diazepine modulation. The various effects of the benzodiazepines in brain may also be mediated via different  $\alpha$ -subunits of the receptor (McKernan et al., 2000; Mehta and Ticku, 1998; Ogris et al., 2004; Pölzl et al., 2003).

## GABAA Receptor, $\alpha 1$ -Subunit, N-Terminus Antibody - References

- McKernan RM, et al. (2000) Sedative but not anxiolytic properties of benzodiazepines are mediated by the GABAA receptor  $\alpha 1$ -subtype. *Nature Neurosci* 3:587-592.
- Mehta AK, Ticku MK (1998) Prevalence of the GABAA receptor assemblies containing  $\alpha 1$ -subunit in the rat cerebellum and cerebral cortex as determined by immunoprecipitation: Lack of modulation by chronic ethanol administration. *Mol Brain Res* 67:194-199.
- Ogris W, Pölzl A, Hauer B, Ernst M, Oberto A, Wulff P, Höger H, Wisden W, Sieghart W (2004) Affinity of various benzodiazepine site ligands in mice with a point mutation in the GABAA receptor

$\gamma$ 2-subunit. Biochem Pharmacol 68:1621-1629.

Olsen RW, Tobin AJ (1990) Molecular biology of GABAA receptors. FASEB 4:1469-1480.

Pörtl A, Hauer B, Fuchs K, Tretter V, Sieghart W (2003) Subunit composition and quantitative importance of GABAA receptor subtypes in the cerebellum of mouse and rat. J Neurochem 87:1444-1455.

Whiting PJ, Bonnert TP, McKernan RM, Farrar S, Le Bourdellès B, Heavens RP, Smith DW, Hewson L, Rigby MR, Sirinathsinghji DJS, Thompson SA, Wafford KA (1999) Molecular and functional diversity of the expanding GABAA receptor gene family. Ann NY Acad Sci 868:645-653.