

## Polyclonal Antibody to GABAA Receptor alpha 6 - Aff - Purified

<b>Alternate names:</b>	GABRA-6, GABRA6, Gamma-Aminobutyric Acid Receptor subunit Alpha-6
<b>Catalog No.:</b>	AP08658PU-N
<b>Quantity:</b>	0.1 ml
<b>Background:</b>	<p><i>Gamma</i>-aminobutyric acid (GABA) is the primary inhibitory neurotransmitter in the central nervous system. There are two major classes of GABA receptors: the GABAA and the GABAB subtype of receptors. 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 sub-stance 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 benzodiazepine 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; Pörtl et al., 2003).</p>
<b>Uniprot ID:</b>	<a href="#">P30191</a>
<b>NCBI:</b>	<a href="#">NP_068613.1</a>
<b>GeneID:</b>	<a href="#">29708</a>
<b>Host / Isotype:</b>	Rabbit / IgG
<b>Immunogen:</b>	Fusion protein from the cytoplasmic loop of the Alpha-6 subunit of Rat GABAA Receptor.
<b>Format:</b>	<b>State:</b> Liquid purified Ig fraction. <b>Purification:</b> Affinity Chromatography. <b>Buffer System:</b> 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% Glycerol.
<b>Applications:</b>	<b>Dot Blot:</b> 1/1000. <b>Western Blot:</b> 1/1000. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
<b>Specificity:</b>	Specific for the ~57k Alpha-6 subunit of the GABAA Receptor in Western blots of Rat brain membrane fractions. Also recognizes the alpha-6 subunit of GABAA-R in Bovine, Human and Mouse brain extracts. Does not recognize GABAA-R subunits as reactivity is eliminated in alpha-6 knockout brain. <b>Species:</b> Rat, Mouse, Human, Bovine. Other species not tested.

**Storage:**

Store the antibody undiluted (in aliquots) at -20°C.  
Avoid repeated freezing and thawing.  
Shelf life: one year from despatch.

**General Readings:**

1. McKernan RM, Rosahl TW, Reynolds DS, Sur C, Wafford KA, Atack JR, et al. Sedative but not anxiolytic properties of benzodiazepines are mediated by the GABA(A) receptor alpha1 subtype. *Nat Neurosci.* 2000 Jun;3(6):587-92. PubMed PMID: 10816315.
2. 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.
3. Ogris W, Pörtl A, Hauer B, Ernst M, Oberto A, Wulff P, et al. Affinity of various benzodiazepine site ligands in mice with a point mutation in the GABA(A) receptor gamma2 subunit. *Biochem Pharmacol.* 2004 Oct 15;68(8):1621-9. PubMed PMID: 15451405.
4. Olsen RW, Tobin AJ (1990) Molecular biology of GABAA receptors. *FASEB* 4:1469-1480.
5. Pörtl A, Hauer B, Fuchs K, Tretter V, Sieghart W. Subunit composition and quantitative importance of GABA(A) receptor subtypes in the cerebellum of mouse and rat. *J Neurochem.* 2003 Dec;87(6):1444-55. PubMed PMID: 14713300.
6. Whiting PJ, Bonnert TP, McKernan RM, Farrar S, Le Bourdellès B, Heavens RP, et al. Molecular and functional diversity of the expanding GABA-A receptor gene family. *Ann N Y Acad Sci.* 1999 Apr 30;868:645-53. PubMed PMID: 10414349.

**Pictures:**

Western blot of mouse forebrain lysates from Wild Type (Control) and  $\alpha_6$ -knockout ( $\alpha_6$ -K/O) animals showing specific immunolabeling of the ~57k  $\alpha_6$ -subunit of the GABAA-R. The labeling was absent from a lysate prepared from  $\alpha_6$ -knockout animals.

