

**GABAA Receptor,  $\alpha$ 5-Subunit Antibody**  
**Affinity purified rabbit polyclonal antibody**  
**Catalog # AN1070****Specification**

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**GABAA Receptor,  $\alpha$ 5-Subunit Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P19969</a>
Reactivity	Rat
Predicted	Bovine, Chicken, Human, Mouse, Monkey, Zebrafish
Host	Rabbit
Clonality	polyclonal
Calculated MW	55 KDa

**GABAA Receptor,  $\alpha$ 5-Subunit Antibody - Additional Information**

Gene ID	29707
Gene Name	GABRA5
<b>Other Names</b>	
Gamma-aminobutyric acid receptor subunit alpha-5, GABA(A) receptor subunit alpha-5, Gabra5, Gabra-5	

**Target/Specificity**

Fusion protein from the cytoplasmic loop of the alpha 5 subunit.

**Dilution**

WB~~ 1:1000

**Format**

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

**Antibody Specificity**

Specific for the ~55k  $\alpha$ 5-subunit of the GABAA receptor in Western blots of rat brain extracts.

**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,  $\alpha$ 5-Subunit Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Shipping**

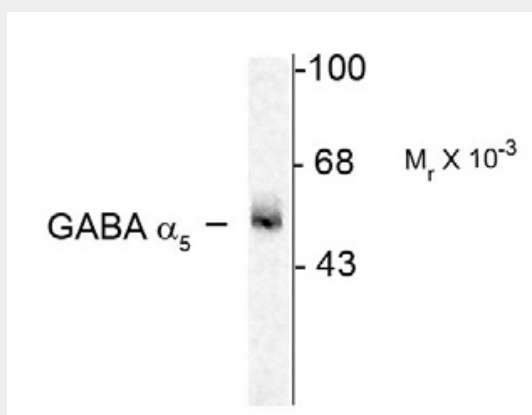
Blue Ice

**GABAA Receptor,  $\alpha$ 5-Subunit 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, $\alpha 5$ -Subunit Antibody - Images**



Western blot of 7  $\mu$ g of rat hippocampus (Hipp) showing specific immunolabeling of the  $\sim 55$ k  $\alpha 5$ -subunit of the GABAA-R.

#### **GABAA Receptor, $\alpha 5$ -Subunit 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  $\text{Cl}^-$  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 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).

#### **GABAA Receptor, $\alpha 5$ -Subunit 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, Pörtl 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.