

**GABAA Receptor,  $\gamma$ 2-Subunit Antibody**  
**Rabbit polyclonal antibody**  
**Catalog # AN1044****Specification**

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**GABAA Receptor,  $\gamma$ 2-Subunit Antibody - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">P18508</a>
Reactivity	Rat
Predicted	Chicken, Human, Mouse, Monkey, Zebrafish
Host	Rabbit
Clonality	polyclonal
Calculated MW	46 KDa

**GABAA Receptor,  $\gamma$ 2-Subunit Antibody - Additional Information**

Gene ID	29709
Gene Name	GABRG2
<b>Other Names</b>	
Gamma-aminobutyric acid receptor subunit gamma-2, GABA(A) receptor subunit gamma-2, Gabrg2	

**Target/Specificity**

Synthetic peptide corresponding to amino acid residues specific to the gamma 2 subunit conjugated to KLH.

**Dilution**

WB~~ 1:1000

IHC~~ 1:400

**Format**

Unpurified neat serum.

**Antibody Specificity**

Specific for the ~46k  $\gamma$ 2-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,  $\gamma$ 2-Subunit Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Shipping**

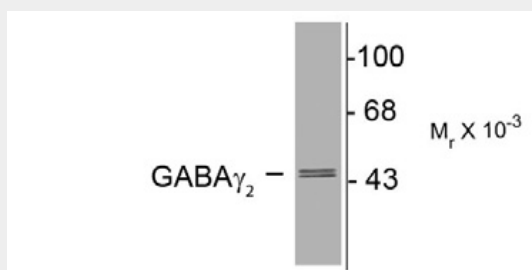
Blue Ice

## GABAA Receptor, $\gamma 2$ -Subunit Antibody - Protocols

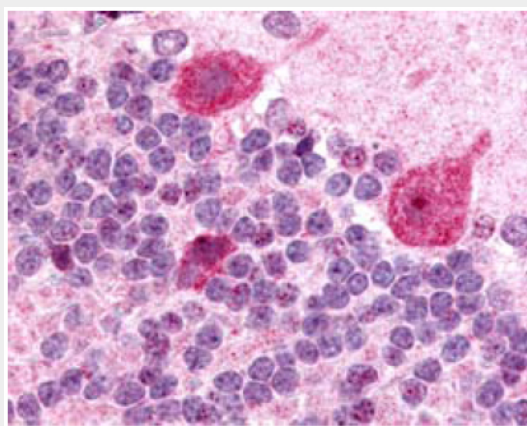
Provided below are standard protocols that you may find useful for product applications.

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

## GABAA Receptor, $\gamma 2$ -Subunit Antibody - Images



Western blot of 10  $\mu$ g of rat hippocampal lysate showing immunolabeling of the ~46k  $\gamma 2$ -subunit of the GABAA-R.



Immunostaining of rat cerebellum showing labeling of GABAA  $\gamma 2$  subunit in fuchsia.

## GABAA Receptor, $\gamma 2$ -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, co-expression 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). Lastly, phosphorylation of  $\beta$ -subunits of the receptor has been shown to modulate GABAA-R function (Brandon et al., 2003).

### **GABAA Receptor, $\gamma$ 2-Subunit Antibody - References**

- Brandon NJ, Jovanovic JN, Colledge M, Kittler JT, Brandon JM, Scott JD, Moss SJ (2003) A kinase anchoring protein 79/150 facilitates the phosphorylation of GABAA receptors by cAMP-dependent protein kinase via selective interaction with receptor  $\beta$ -subunits. *Mol Cell Neurosci* 22:87-97.
- 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.