

**Anti-GABAA Receptor  $\alpha$ 2 Antibody**

**Our Anti-GABAA Receptor  $\alpha$ 2 rabbit polyclonal primary antibody from PhosphoSolutions is produced in-h**  
**Catalog # AN1392**

**Specification****Anti-GABAA Receptor  $\alpha$ 2 Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P23576</a>
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	51182

**Anti-GABAA Receptor  $\alpha$ 2 Antibody - Additional Information****Other Names**

GABA A receptor subunit  $\alpha$ 2 antibody, GABA antibody, GABA(A) receptor subunit  $\alpha$ 2 antibody, GABA(A) receptor subunit  $\alpha$ -2 antibody, GABR A2 antibody, GABR $\alpha$ 2 antibody, GABRA2 antibody, GABRA2 protein antibody, Gamma aminobutyric acid (GABA) A receptor  $\alpha$ 2 antibody, Gamma aminobutyric acid A receptor  $\alpha$ 2 antibody, Gamma aminobutyric acid receptor  $\alpha$ 2 subunit antibody, Gamma aminobutyric acid receptor subunit  $\alpha$ 2 antibody, Gamma-aminobutyric acid receptor subunit  $\alpha$ -2 antibody, GBRA2\_HUMAN antibody

**Target/Specificity**

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 GABA-A receptor (GABA-A-R) subtype. GABA-A-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 GABA-A-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 GABA<sub>A</sub>-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).

**Dilution**

WB ~ 1:1000

**Format**

Antigen Affinity Purified from Pooled Serum

**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**

Anti-GABAA Receptor  $\alpha$ 2 Antibody is for research use only and not for use in diagnostic or

therapeutic procedures.

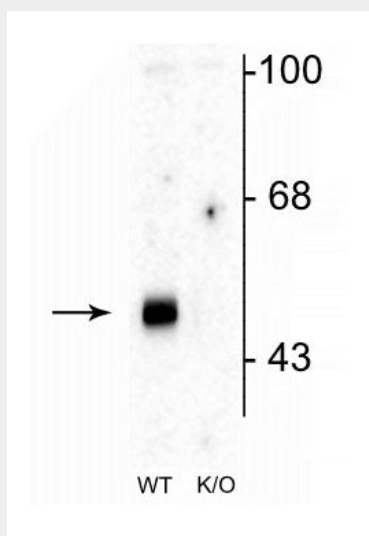
**Shipping**  
Blue Ice

### Anti-GABAA Receptor $\alpha 2$ Antibody - Protocols

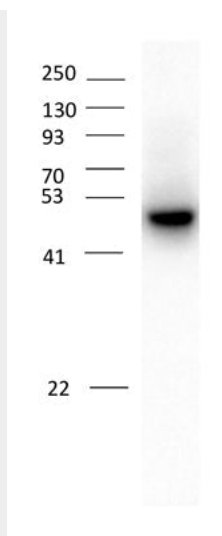
Provided below are standard protocols that you may find useful for product applications.

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

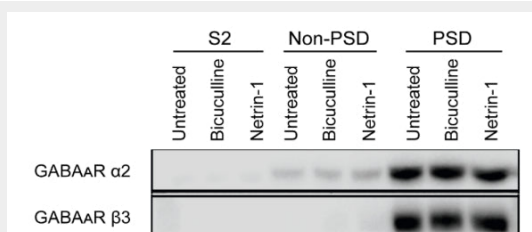
### Anti-GABAA Receptor $\alpha 2$ Antibody - Images



Western blot of mouse brain lysates from wild type (WT) and  $\alpha 2$ -knockout (K/O) animals showing specific immunolabeling of the ~51 kDa  $\alpha 2$ -subunit of the GABAA-R. The labeling was absent from a lysate prepared from  $\alpha 2$ -knockout animals.



Western blot of rat cortical neurons showing specific immunolabeling of the ~51 kDa  $\alpha 2$ -subunit of the GABAA-R (1:1000). Image kindly provided by Lidong Liu, University of British Columbia, Vancouver.



Immunoblots showing GABAA Receptor  $\alpha 2$  (cat. 822-GA2CL) and GABAA Receptor  $\beta 3$  (cat. 863A-GB3C) subunit expression in the cytosolic (S2), extrasynaptic (non-PSD), and synaptic (PSD) fractions of untreated, bicuculline-pretreated (20  $\mu$ M, 1h), or netrin-1 treated (250ng/ml, 1h) rat hippocampal neuronal cultures. Image from publication CC-BY-4.0. PMID: 36323250

### Anti-GABAA Receptor $\alpha 2$ 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  $Cl^-$  channel associated with the GABA-A receptor (GABA-A-R) subtype. GABA-A-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 GABA-A-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; Pölzl et al., 2003).