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PRODUCT DATA SHEET

Product Name: **ANTI-GABA$_A$ RECEPTOR, γ_2-SUBUNIT ANTIBODY**

Product Code: P40011-100

Pack Size: 100 µL

Description: *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 αs, four βs and four γs, 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 α- and β-subunits results in the expression of functional GABA$_A$-Rs sensitive to GABA. However, coexpression of a γ-subunit is required for benzodiazepine modulation. The various effects of the benzodiazepines in brain may also be mediated via different α-subunits of the receptor (McKernan et al., 2000; Mehta and Ticku, 1998; Ogris et al., 2004; Pöltl et al., 2003).

Physical State: Liquid; Buffer contents: 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per mL BSA and 50% glycerol

Storage/Stability: Stable at -20 °C for at least 1 year. For long term storage -20 °C is recommended

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

Shipping Conditions: Domestic: Blue Ice
International: Blue Ice or Dry Ice

Host Species: Rabbit (Polyclonal)

***Mr* (kDa):** 46

Immunogen: Fusion protein from the cytoplasmic loop of the γ_2-subunit of rat GABA$_A$ receptor.

Species Reactivity: The antibody has been directly tested for reactivity in Western blots with rat tissue. It is anticipated that the antibody will react with bovine, canine, chicken, human, mouse and non-human primate based on the fact that these species have 100% homology with the amino acid sequence used as antigen.

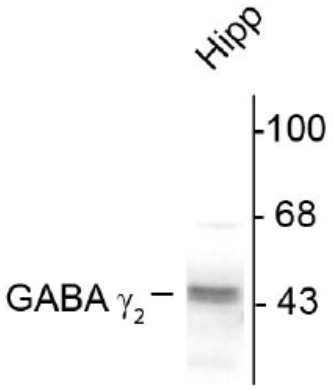
Recommended Antibody Dilutions:

WB: 1:1000
IHC: 1:100

References:

1) Brandon NJ et al. (2003) *Mol Cell Neurosci* 22:87-97.
2) McKernan RM, et al. (2000) *Nature Neurosci* 3:587-592.
3) Mehta AK et al. (1998) *Mol Brain Res* 67:194-199.
4) Ogris W et al. (2004) *Biochem Pharmacol* 68:1621-1629.
5) Olsen RW et al. (1990) *FASEB* 4:1469-1480.
6) Pöltl A et al. (2003) *J Neurochem* 87:1444-1455.
7) Whiting PJ et al. (1999) *Ann NY Acad Sci* 868:645-653.

Western Blot
10 µg of rat hippocampal (Hipp) lysate showing specific immunolabeling of the ~46k γ_2-subunit of GABA$_A$ -R.



Application Key: **WB – Western Blot** **IF – Immunofluorescence** **IHC – Immunohistochemistry** **IP - Immunoprecipitation**