Anti-GABA<sub>A</sub> Receptor, α<sub>2</sub>-Subunit

Catalog Number: 840-GA2

Product Description: Rabbit polyclonal antibody

Applications: WB: 1:1000

Antigen: Peptide representing a sequence that is specific for the α<sub>2</sub>-subunit of rat GABA<sub>A</sub> Receptor. The sequence of the immunogen is identical in bovine, human, mouse, and rat and has no homology with any other GABA<sub>A</sub> R-subunit.

Biological Significance: 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<sub>A</sub> Receptor (GABA<sub>A</sub>-R) subtype. GABA<sub>A</sub>-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<sub>A</sub>-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<sub>A</sub>-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). Lastly, phosphorylation of β-subunits of the receptor has been shown to modulate GABA<sub>A</sub>-R function (Brandon et al., 2003).

Western Blot of 10 µg of rat brain lysate showing immunolabeling of the ~53k α<sub>2</sub>-subunit of the GABA<sub>A</sub>-R.
Purification Method: Unpurified neat serum.

Antibody Specificity: Specific for the ~53k α2-subunit of the GABA_A Receptor in Western blots of rat brain extracts.

Quality Control Tests: Western Blots performed on each lot.

References: