

DESCRIPTION

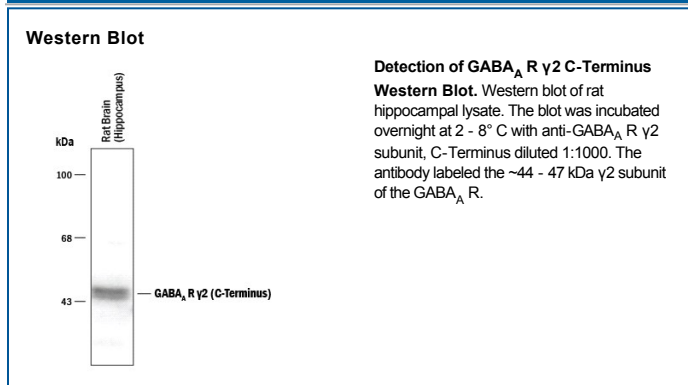
| | |
|---------------------------|---|
| Species Reactivity | Human/Mouse/Rat/Bovine/Canine/Chicken/Primate |
| Specificity | Human, mouse, rat, and bovine ~44 - 47 kDa GABA _A R γ 2 subunit, C-Terminus |
| Source | Polyclonal Rabbit IgG |
| Purification | Antigen Affinity-purified |
| Immunogen | Fusion protein from the cytosolic loop of the rat GABA _A R γ 2 subunit, C-Terminus |
| Formulation | 100 μ L in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 μ g/mL BSA and 50% glycerol. See Certificate of Analysis for details. |

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

| | Recommended Concentration | Sample |
|---------------------|---------------------------|-----------|
| Western Blot | 1:1000 dilution | See Below |

DATA



PREPARATION AND STORAGE

| | |
|--------------------------------|---|
| Shipping | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| Stability & Storage | For long-term storage, \leq -20° C is recommended. Product is stable at \leq -20° C for at least 1 year. |

BACKGROUND

GABA_A (γ -aminobutyric acid-type A) receptors are members of the cysteine-loop family of neurotransmitter-gated ion channels. GABA binding to A-type receptors induces anion-selective ion channel opening. These receptors are the principal fast inhibitory neurotransmitter receptors in the CNS. GABA_A receptors are heteropentamer combinations of seven subunit types; α , β , γ , δ , ϵ , θ , and π . Three subunits, α , β , and γ , have at least three separate gene products in mammals, and typical GABA_A receptors have some combination of α , β and γ subunits. The rat γ 2 isoform is a 48 kDa, 436 amino acid (aa), 4 transmembrane protein with two terminal extracellular regions. The ligand-binding region is in the N-terminus (aa 30 - 233). The γ 2 subunit is part of the most common GABA_A receptor combination in the mammalian brain (α 1 β 2 γ 2). GABA binds at α - β interfaces, while benzodiazepine binds to α - γ interfaces. There are two splice forms, the longest contains a consensus phosphorylation site in the second cytoplasmic domain, and a short form that shows an absence of this site through a deletion of aa 376 - 383. PKC phosphorylates the long form at S381, while both the short and long forms are phosphorylated at S365. Phosphorylation blocks receptor activity. The γ 2 subunits are also palmitoylated at multiple sites on cysteines that lay between aa 415 - 461, facilitating membrane trafficking.

References:

1. Darlison, M.G. et al. (2005) Cell. Mol. Neurobiol. 25:607.
2. Akabas, M.H. (2004) Int. Rev. Neurobiol. 62:1.
3. Song, M. and R.O. Messing (2005) Cell. Mol. Life Sci. 62:119.
4. Krishek, B.J. et al. (1994) Neuron 12:1081.
5. Keller, C.A. et al. (2004) J. Neurosci. 24:5881.
6. Moss, S.J. et al. (1992) J. Biol. Chem. 267:14470.