

# Affinity Purified Rabbit Anti-GABA<sub>A</sub> Receptor ( $\delta$ Subunit, N-Terminus) Certificate of Analysis

## ORDERING INFORMATION

**Catalog Number:** PPS090B

**Lot Numbers:** 1496803

**Size:** 100  $\mu$ L (sufficient for 10 mini-blot)

**Storage:**  $\leq -20^{\circ}\text{C}$

**Specificity:** Mouse and rat ~50 kDa GABA<sub>A</sub> R  $\delta$  subunit, N-Terminus

**Immunogen:** Fusion protein from the cytosolic loop of the rat GABA<sub>A</sub> R  $\delta$  subunit, N-Terminus

**Ig Type:** rabbit IgG

**Applications:** Western Blot

## Description

GABA<sub>A</sub> ( $\gamma$ -aminobutyric acid-type A) receptors are members of the cysteine-loop family of neurotransmitter-gated ion channels. Receptors in this group operate as GABA-gated Cl<sup>-</sup> channels. These receptors are the principal fast inhibitory neurotransmitter receptors in the central nervous system. GABA<sub>A</sub> receptors are heteropentamer combinations of seven subunit types;  $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$ ,  $\epsilon$ ,  $\theta$ , and  $\pi$ . Typical GABA<sub>A</sub> receptors have some combination of an  $\alpha$ ,  $\beta$ , and  $\gamma$  subunit. In select neurons, however, a  $\delta$  subunit replaces the  $\gamma$ -subunit. It would appear that  $\delta$  subunits have a preference for various  $\alpha$ - $\beta$  combinations. In cerebellar granule cells, the  $\delta$  subunit contributes to a unique  $\alpha 6\beta\delta$  heteromer.  $\delta$  subunit receptors may function to limit the spread of excitatory impulses to dendritically-complexed neurons. They also appear to be sensitive to steroid modulation. The rat  $\delta$  subunit is a 50 kDa, 433 amino acid (aa), 4 transmembrane protein with two terminal extracellular regions. The ligand-binding region is in the N-terminus (aa 4 - 246). The rat and mouse N-terminal extracellular domains (ECD) (aa 17 - 248) are 99% aa identical; the mouse and human ECD are 95% aa identical.

## Preparation

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

## Formulation

100  $\mu$ L in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/mL BSA and 50% Glycerol.

## Storage

For long-term storage,  $\leq -20^{\circ}\text{C}$  is recommended. Product is stable at  $\leq -20^{\circ}\text{C}$  for at least 1 year.

## Specificity

Specific for the ~50 kDa  $\delta$  subunit of the GABA<sub>A</sub> Receptor in Western Blots of rat cerebellum. This antibody also recognizes the  $\delta$  subunit of GABA<sub>A</sub> Receptor in mouse brain lysates.

## Applications

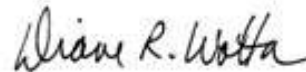
**Western Blot** - 1:1000

**Optimal dilutions should be determined by each laboratory for each application.**

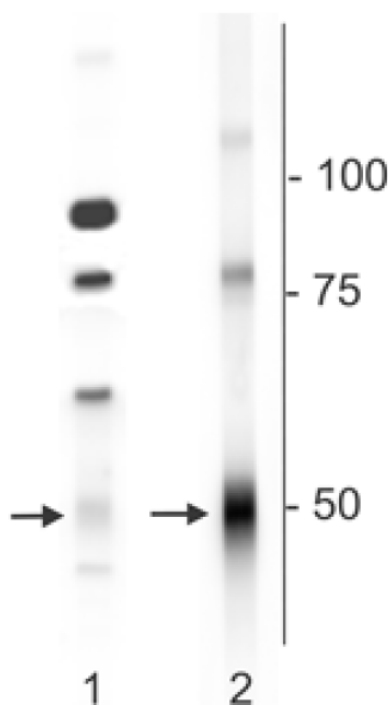
## References

1. Whiting, P.J. *et al.* (1999) Ann. N.Y. Acad. Sci. **868**:645.
2. Rudolph, U. *et al.* (2001) Trends Pharmacol. Sci. **22**:188.
3. Shivers, B.D. *et al.* (1989) Neuron **3**:327.
4. Sommer, B. *et al.* (1990) DNA Cell Biol. **9**:561.
5. Bianchi, M.T. and R.L. MacDonald (2003) J. Neurosci. **23**:10934.

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Quality & Regulatory Affairs



Western Blot of mouse whole brain (1) and mouse synaptic plasma membrane (2) lysates showing specific immunolabeling of the ~50 kDa  $\delta$ -subunit of the GABA<sub>A</sub>-R.

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