OriGene Technologies Inc.

9620 Medical Center Drive, Ste 200
Rockville, MD 20850
UNITED STATES
Phone: +1-888-267-4436
Fax: +1-301-340-8606
techsupport@origene.com

OriGene EU

Acris Antibodies GmbH
Schillerstr. 5
32052 Herford
GERMANY
Phone: +49-5221-34606-0
Fax: +49-5221-34606-11
info@acris-antibodies.com

Polyclonal Antibody to GABRA2 (Cytopl. Dom.) - Aff - Purified

Alternate names: GABA A receptor subunit alpha-2, GABRA-2, Gamma-aminobutyric acid receptor subunit alpha-2

Catalog No.: AP08652PU-N

Quantity: 0.1 ml

Background: *Gamma*-aminobutyric acid (GABA) is the primary inhibitory neurotransmitter in the central nervous system. There are two major classes of GABA receptors: the GABAA and the GABAB subtype of receptors. GABAA-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 sub-stance abuse. The GABAA-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; Pöltl et al., 2003).

Uniprot ID: P23576

NCBI: 10116

Host / Isotype: Rabbit / IgG

Immunogen: Fusion protein from the cytoplasmic loop of the Alpha-2 subunit of rat GABAA Receptor.

Format: **State:** Liquid purified Ig fraction.
Purification: Affinity Chromatography.
Buffer System: 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% Glycerol.

Applications: **Western Blot:** 1/1000.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: Specific for the ~51k Alpha-2 subunit of the GABAA receptor in Western blots.
Labeling is absent in Alpha-2 subunit knockout animals.

Species Reactivity: **Tested:** Rat and Mouse.
Expected from sequence similarity: Human, Bovine, Canine, Zebrafish and non-Human Primates.

Storage: Store the antibody undiluted (in aliquots) at -20°C.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:

1. McKernan RM, Rosahl TW, Reynolds DS, Sur C, Wafford KA, Atack JR, et al. Sedative but not anxiolytic properties of benzodiazepines are mediated by the GABA(A) receptor alpha1 subtype. Nat Neurosci. 2000 Jun;3(6):587-92. PubMed PMID: 10816315.
2. Mehta AK, Ticku MK (1998) Prevalence of the GABAA receptor assemblies containing Alpha-1 subunit in the rat cerebellum and cerebral cortex as determined by immunoprecipitation: Lack of modulation by chronic ethanol administration. Mol Brain Res 67:194-199.
3. Ogris W, Pöltl A, Hauer B, Ernst M, Oberto A, Wulff P, et al. Affinity of various benzodiazepine site ligands in mice with a point mutation in the GABA(A) receptor gamma2 subunit. Biochem Pharmacol. 2004 Oct 15;68(8):1621-9. PubMed PMID: 15451405.
4. Olsen RW, Tobin AJ (1990) Molecular biology of GABAA receptors. FASEB 4:1469-1480.
5. Pöltl A, Hauer B, Fuchs K, Tretter V, Sieghart W. Subunit composition and quantitative importance of GABA(A) receptor subtypes in the cerebellum of mouse and rat. J Neurochem. 2003 Dec;87(6):1444-55. PubMed PMID: 14713300.
6. Whiting PJ, Bonnert TP, McKernan RM, Farrar S, Le Bourdellès B, Heavens RP, et al. Molecular and functional diversity of the expanding GABA-A receptor gene family. Ann N Y Acad Sci. 1999 Apr 30;868:645-53. PubMed PMID: 10414349.

Pictures:

Figure 1. Western blot of mouse brain lysates from wild type (Control) and Alpha-2 knockout (Alpha-2 K/O) animals showing specific immunolabeling of the ~51k Alpha-2 subunit of the GABAA-R. The labeling was absent from a lysate prepared from Alpha-2 knockout animals.