

GABA-A receptor $\alpha 1$

Cat.No. 224 205; Polyclonal Guinea pig antibody, 50 μ g specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 μ g specific antibody, lyophilized. Affinity purified with the immunogen. Guinea pig serum albumin was added for stabilization. For reconstitution add 50 μ l H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 up to 1 : 2000 (AP staining) (see remarks) IP: not tested yet ICC: 1 : 200 up to 1 : 1000 (see remarks) IHC: 1 : 500 (see remarks) IHC-P/FFPE: not tested yet
Immunogen	Synthetic peptide corresponding to AA 28 to 43 from rat GABA-A receptor $\alpha 1$ (UniProt Id: P62813)
Reactivity	Reacts with: rat (P62813), mouse (P62812). Other species not tested yet.
Specificity	Specific for GABA-A receptor $\alpha 1$. (K.O. verified)
matching control	224-2P
Remarks	WB: This protein aggregates after boiling, making it necessary to run SDS-PAGE with non-boiled samples. ICC: This antibody is PFA fixation sensitive, use only mild fixation (2% PFA). Best results are obtained by application on living cells. After washing cells with bound antibodies, they can be fixed and visualized with secondary reagents. IHC: This antibody requires antigen retrieval with pepsin according to: Lorincz A & Nusser Z (2008). recommended protocol

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Gamma-aminobutyric acid type A (GABA-A) receptors mediate the majority of inhibitory neurotransmission in the brain. These receptor proteins are ligand gated chloride ion channels and consist of a pentameric combination of different subunits (**alpha**, beta, gamma, delta, epsilon and rho). The resulting heterogeneous population of GABA-A receptor subtypes are expressed throughout the brain with specific cellular and subcellular expression patterns.

Selected References SYSY Antibodies

Early-life adversity selectively impairs $\alpha 2$ -GABAA receptor expression in the mouse nucleus accumbens and influences the behavioral effects of cocaine.
Mitchell SJ, Maguire EP, Cunningham L, Gunn BG, Linke M, Zechner U, Dixon CI, King SL, Stephens DN, Swinny JD, Belelli D, et al. Neuropharmacology (2018) : . **IHC; tested species: mouse**

Selected General References

The distribution of thirteen GABAA receptor subunit mRNAs in the rat brain. III. Embryonic and postnatal development.
Laurie DJ, Wisden W, Seeburg PH

The Journal of neuroscience : the official journal of the Society for Neuroscience (1992) 12(11): 4151-72.

GABA receptor heterogeneity modulates dendrodendritic inhibition.

Sassoè-Pognetto M, Panzanelli P, Lagier S, Fritschy JM, Lledo PM
Annals of the New York Academy of Sciences (2009) 1170: 259-63.

Synaptogenesis in the cerebellar cortex: differential regulation of gephyrin and GABAA receptors at somatic and dendritic synapses of Purkinje cells.

Viltano L, Patrizi A, Fritschy JM, Sassoè-Pognetto M
The Journal of comparative neurology (2008) 508(4): 579-91.

Compensatory alteration of inhibitory synaptic circuits in cerebellum and thalamus of gamma-aminobutyric acid type A receptor $\alpha 1$ subunit knockout mice.

Kralic JE, Sidler C, Parpan F, Homanics GE, Morrow AL, Fritschy JM
The Journal of comparative neurology (2006) 495(4): 408-21.

Postsynaptic clustering of major GABAA receptor subtypes requires the gamma 2 subunit and gephyrin.

Essrich C, Lorez M, Benson JA, Fritschy JM, Lüscher B
Nature neuroscience (1998) 1(7): 563-71.

GABAA-receptor heterogeneity in the adult rat brain: differential regional and cellular distribution of seven major subunits.
Fritschy JM, Mohler H

The Journal of comparative neurology (1995) 359(1): 154-94.

Distribution, prevalence, and drug binding profile of gamma-aminobutyric acid type A receptor subtypes differing in the beta-subunit variant.

Benke D, Fritschy JM, Trzeciak A, Bannwarth W, Mohler H
The Journal of biological chemistry (1994) 269(43): 27100-7.

The distribution of 13 GABAA receptor subunit mRNAs in the rat brain. II. Olfactory bulb and cerebellum.
Laurie DJ, Seeburg PH, Wisden W

The Journal of neuroscience : the official journal of the Society for Neuroscience (1992) 12(3): 1063-76.

The distribution of 13 GABAA receptor subunit mRNAs in the rat brain. I. Telencephalon, diencephalon, mesencephalon.

Wisden W, Laurie DJ, Monyer H, Seeburg PH
The Journal of neuroscience : the official journal of the Society for Neuroscience (1992) 12(3): 1040-62.

Five subtypes of type A gamma-aminobutyric acid receptors identified in neurons by double and triple immunofluorescence staining with subunit-specific antibodies.

Fritschy JM, Benke D, Mertens S, Oertel WH, Bachi T, Möhler H
Proceedings of the National Academy of Sciences of the United States of America (1992) 89(15): 6726-30.

Cerebellar GABAA receptor selective for a behavioural alcohol antagonist.

Lüddens H, Pritchett DB, Köhler M, Killisch I, Keinänen K, Monyer H, Sprengel R, Seeburg PH
Nature (1990) 346(6285): 648-51.