

GABA_A Rp1 (V-17): sc-22960

BACKGROUND

GAD-65 and GAD-67, glutamate decarboxylases, respectively, function to catalyze the production of GABA (γ -aminobutyric acid). In the central nervous system GABA (γ -aminobutyric acid) functions as the main inhibitory transmitter by increasing a Cl⁻ conductance that inhibits neuronal firing. GABA has been shown to activate both ionotropic (GABA_A) and metabotropic (GABA_B) receptors as well as a third class of receptors called GABA_C. Both GABA_A and GABA_C are ligand-gated ion channels; however, they are structurally and functionally distinct. GABA_C receptors (GABA_C Rp) mediate rapid inhibitory neurotransmission in retina. Three human genes, r1 (GABRR1), r2 (GABRR2) and r3 (GABRR3), encode the three polypeptides that comprise this receptor. GABRR1 and GABRR2 are located close together, in a region of chromosome 6q that contains loci for inherited disorders of the eye, but GABRR3 maps to chromosome 3q11-q13.3. The r polypeptide genes, which are thought to share a common ancestor with GABA_A receptor subunit genes, diverged at an early stage in the evolution of this gene family. The expression of GABA_C Rp subunits is not restricted to the retina, but significant expression can also be detected in many other brain regions, especially in those belonging to the visual pathways.

REFERENCES

1. Cherubini, E., et al. 1991. GABA: an excitatory transmitter in early postnatal life. *Trends Neurosci.* 14: 515-519.
2. Dirx, R., Jr., et al. 1995. Targeting of the 67-kDa isoform of glutamic acid decarboxylase to intracellular organelles is mediated by its interaction with the NH₂-terminal region of the 65-kDa isoform of glutamic acid decarboxylase. *J. Biol. Chem.* 270: 2241-2246.
3. Lukasiewicz, P.D. 1996. GABA_C receptors in the vertebrate retina. *Mol. Neurobiol.* 12: 181-194.
4. Kaupmann, K., et al. 1997. Expression cloning of GABA_B receptors uncovers similarity to metabotropic glutamate receptors. *Nature* 386: 239-246.
5. Boue-Grabot, E., et al. 1998. Expression of GABA receptor rho subunits in rat brain. *J. Neurochem.* 70: 899-907.

CHROMOSOMAL LOCATION

Genetic locus: GABRR1 (human) mapping to 6q15; Gabrr1 (mouse) mapping to 4 A5.

SOURCE

GABA_A Rp1 (V-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GABA_A Rp1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22960 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GABA_A Rp1 (V-17) is recommended for detection of GABA_A Rp1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GABA_A Rp1 (V-17) is also recommended for detection of GABA_A Rp1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GABA_A Rp1 siRNA (h): sc-42457, GABA_A Rp1 siRNA (m): sc-42458, GABA_A Rp1 shRNA Plasmid (h): sc-42457-SH, GABA_A Rp1 shRNA Plasmid (m): sc-42458-SH, GABA_A Rp1 shRNA (h) Lentiviral Particles: sc-42457-V and GABA_A Rp1 shRNA (m) Lentiviral Particles: sc-42458-V.

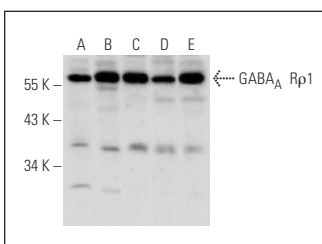
Molecular Weight of GABA_A Rp1: 48 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, Hep G2 cell lysate: sc-2227 or K-562 whole cell lysate: sc-2203.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

DATA



GABA_A Rp1 (V-17): sc-22960. Western blot analysis of GABA_A Rp1 expression in ARPE-19 (A), SK-N-SH (B), HeLa (C), Hep G2 (D) and K-562 (E) whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.