**BACKGROUND**

GAD-65 and GAD-67, glutamate decarboxylases, function to catalyze the production of GABA (γ-aminobutyric acid). In the central nervous system GABA 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. Members of the GABA_A receptor family include GABA_A_R_α_1-6, GABA_A_R_β_1-3, GABA_A_R_γ_1-3, GABA_A_R_δ, GABA_A_R_ρ_1 and GABA_A_R_ρ_2. The GABA_B family is composed of GABA_B_R_α and GABA_B_R_β. GABA transporters have also been identified and include GABA_T-1, GABA_T-2 and GABA_T-3 (also designated GAT-1, -2, and -3). The GABA transporters function to terminate GABA action.

**REFERENCES**

4. Dirkx, 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.

**CHROMOSOMAL LOCATION**

Genetic locus: GABRD (human) mapping to 1p36.33; Gabrd (mouse) mapping to 4 E2.

**SOURCE**

GABA_A_R_δ (H-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 381-417 at the C-terminus of GABA_A_R_δ of human origin.

**PRODUCT**

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271231 P, (100 µg peptide in 0.5 ml PBS containing <0.1% sodium azide and 0.2% stabilizer protein).

**STORAGE**

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

**APPLICATIONS**

GABA_A_R_δ (H-4) is recommended for detection of GABA_A_R_δ of mouse and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Suitable for use as control antibody for GABA_A_R_δ siRNA: sc-42443, GABA_A_R_δ siRNA (m): sc-42444, GABA_A_R_δ shRNA Plasmid (h): sc-42443-SH, GABA_A_R_δ shRNA Plasmid (m): sc-42444-SH, GABA_A_R_δ shRNA (h) Lentiviral Particles: sc-42443-V and GABA_A_R_δ shRNA (m) Lentiviral Particles: sc-42444-V.

Molecular Weight of GABA_A_R_δ: 51 kDa.

Positive Controls: TE671 cell lysate: sc-2416 or Neuro-2A whole cell lysate: sc-364185.

**RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

**DATA**

GABA_A_R_δ (H-4): sc-271231. Western blot analysis of GABA_A_R_δ expression in TE671 whole cell lysate.

GABA_A_R_δ (H-4): sc-271231. Western blot analysis of GABA_A_R_δ expression in Neuro-2A whole cell lysate.

**RESEARCH USE**

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

**PROTOCOLS**

See our web site at www.scbt.com or our catalog for detailed protocols and support products.