There are two forms of glutamic acid decarboxylases (GADs) that are found in the brain: GAD-65 (also known as GAD2) and GAD-67 (also known as GAD1, GAD or SCP). GAD-65 and GAD-67 are members of the group II decarboxylase family of proteins and are responsible for catalyzing the rate limiting step in the production of GABA (γ-aminobutyric acid) from L-glutamic acid. Although both GADs are found in the brain, GAD-65 localizes to synaptic vesicle membranes in nerve terminals, while GAD-67 is distributed throughout the cell. GAD-67 is responsible for the basal levels of GABA synthesis. In the case of a heightened demand for GABA in neurotransmission, GAD-65 will transiently activate to assist in GABA production. The loss of GAD-65 is detrimental and can impair GABA neurotransmission, however the loss of GAD-67 is lethal. Due to alternative splicing, two isoforms exist for GAD-67, the predominant GAD-67 form and the minor GAD-25 form. GAD-25 is not expressed in brain and can impair GABA neurotransmission, however the loss of GAD-67 is dominant.

**PRODUCT**

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

GAD-65 (A-3) is available conjugated to agarose (sc-377145 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377145 HRP), 200 µg/ml, for WB, (sc-377145 AF647), 200 µg/ml, for IF, IHC(P) and FCM.

**APPLICATIONS**

GAD-65 (A-3) is recommended for detection of GAD-65 of mouse, rat 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), immunohistochemistry (including paraffin-embedded sections) (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 GAD-65 siRNA (h): sc-41964, GAD-65 siRNA (m): sc-41965, GAD-65 shRNA (r): sc-61888, GAD-65 shRNA Plasmid (h): sc-41964-SH, GAD-65 shRNA Plasmid (m): sc-41965-SH, GAD-65 shRNA Plasmid (r): sc-61888-SH, GAD-65 shRNA (h) Lentiviral Particles: sc-41964-V, GAD-65 shRNA (m) Lentiviral Particles: sc-41965-V and GAD-65 shRNA (r) Lentiviral Particles: sc-61888-V.

Molecular Weight of GAD-65: 65 kDa.

Positive Controls: rat cerebellum extract: sc-2398, U-87 MG cell lysate: sc-2411 or EOC 20 whole cell lysate: sc-364187.

**SELECT PRODUCT CITATIONS**


**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.

**PROTOCOLS**

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA.