

GAD-67 (N-19): sc-7512

BACKGROUND

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 but can be found in a variety of endocrine tissues.

CHROMOSOMAL LOCATION

Genetic locus: GAD1 (human) mapping to 2q31.1; Gad1 (mouse) mapping to 2 C2.

SOURCE

GAD-67 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of GAD-67 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-7512 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GAD-67 (N-19) is recommended for detection of GAD-67 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), 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).

GAD-67 (N-19) is also recommended for detection of GAD-67 in additional species, including bovine and feline.

Suitable for use as control antibody for GAD-67 siRNA (h): sc-35435, GAD-67 siRNA (m): sc-35436, GAD-67 siRNA (r): sc-61889, GAD-67 shRNA Plasmid (h): sc-35435-SH, GAD-67 shRNA Plasmid (m): sc-35436-SH, GAD-67 shRNA Plasmid (r): sc-61889-SH, GAD-67 shRNA (h) Lentiviral Particles: sc-35435-V, GAD-67 shRNA (m) Lentiviral Particles: sc-35436-V and GAD-67 shRNA (r) Lentiviral Particles: sc-61889-V.

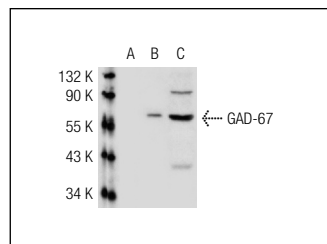
Molecular Weight of GAD-67: 67 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411, GAD-67 (m): 293T Lysate: sc-126883 or mouse brain extract: sc-2253.

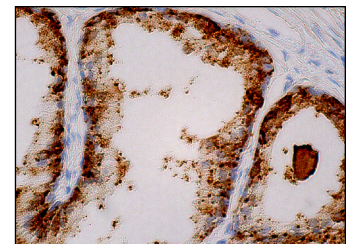
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



GAD-67 (N-19): sc-7512. Western blot analysis of GAD-67 expression in non-transfected: sc-117752 (A) and mouse GAD-67 transfected: sc-126883 (B) 293T whole cell lysates and mouse brain tissue extract (C).



GAD-67 (N-19): sc-7512. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic staining of glandular cells.

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 or our catalog for detailed protocols and support products.



Try **GAD-67 (F-6): sc-28376** or **GAD-67 (A-4): sc-390383**, our highly recommended monoclonal alternatives to GAD-67 (N-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **GAD-67 (F-6): sc-28376**.