

GLUD1/2 (G-14): sc-160382

BACKGROUND

GLUD1 (glutamate dehydrogenase 1), also known as GDH, GDH1 or GLUD, and GLUD2 (glutamate dehydrogenase 2), also known as GDH2 or GLUDP1, are both mitochondrial matrix enzymes belonging to the Glu/Leu/Phe/Val dehydrogenases family. Existing as homohexamers, GLUD1 catalyzes the oxidative deamination of glutamate to α -ketoglutarate and ammonia while GLUD2 is involved in the recycling of glutamate during neurotransmission. GLUD1 is critical for regulating amino acid induced Insulin secretion and is allosterically activated by ADP and inhibited by GTP and ATP. Mutations in the gene encoding GLUD1 causes hyperinsulinism-hyperammonemia syndrome (HHS), which is an inherited condition characterized by high Insulin and ammonia levels in the blood. GLUD1 may also be involved in learning and memory reactions by increasing the turnover of the excitatory neurotransmitter glutamate. GLUD2 is expressed in testis and retina, with lower levels found in brain.

CHROMOSOMAL LOCATION

Genetic locus: GLUD1 (human) mapping to 10q23.2, GLUD2 (human) mapping to Xq24; Glud1 (mouse) mapping to 14 B, Glud2 (mouse) mapping to 7 F3.

SOURCE

GLUD1/2 (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GLUD1 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-160382 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

GLUD1/2 (G-14) is recommended for detection of GLUD1 and GLUD2 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).

GLUD1/2 (G-14) is also recommended for detection of GLUD1 and GLUD2 in additional species, including canine and avian.

Molecular Weight (predicted) of GLUD1/2: 61 kDa.

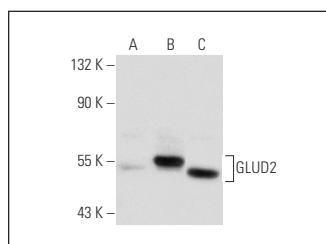
Molecular Weight (observed) of GLUD1/2: 50-55 kDa.

Positive Controls: GLUD2 (h): 293T Lysate: sc-116421, Hep G2 cell lysate: sc-2227 or mouse brain extract: sc-2253.

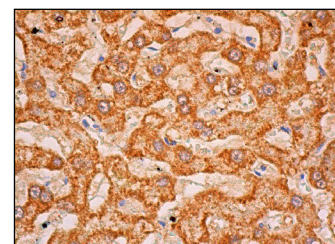
RECOMMENDED SECONDARY REAGENTS

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



GLUD1/2 (G-14): sc-160382. Western blot analysis of GLUD2 expression in non-transfected 293T: sc-117752 (A), human GLUD2 transfected 293T: sc-116421 (B) and Hep G2 (C) whole cell lysates.



GLUD1/2 (G-14): sc-160382. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

SELECT PRODUCT CITATIONS

- Pan, Y.H., et al. 2013. Adaptation of phenylalanine and tyrosine catabolic pathway to hibernation in bats. PLoS ONE 8: e62039.

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.

MONOS
Satisfaction
Guaranteed

Try **GLUD1/2 (C-10): sc-515542** or **GLUD2 (3C2): sc-293459**, our highly recommended monoclonal alternatives to GLUD1/2 (G-14).