BACKGROUND

The glycine cleavage system is comprised of AMT (known as protein T), GCSH (known as protein H), GLD (known as protein L) and GLDC (known as protein P), all of which work together to catalyze the cleavage and degradation of glycine. GLDC (glycine dehydrogenase), also known as GCE, GCSP (glycine cleavage system P protein) or HYGN1, is a 1,020 amino acid protein that localizes to the mitochondria and belongs to the GCVP family. GLDC binds to glycine and enables the methyamine group from glycine to be transferred to the protein T. GLDC exists as a homodimer and utilizes pyridoxalphosphate as a cofactor. Mutations in the gene encoding GLDC lead to nonketotic hyperglycinemia (NKH), also known as glycine encephalopathy (GCE), an autosomal recessive disease characterized by accumulation of a large amount of glycine in body fluid and by severe neurological symptoms.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: GLDC (human) mapping to 9p24.1; Glcd (mouse) mapping to 19 C1.

SOURCE

GLDC (A-9) is a mouse monoclonal antibody raised against amino acids 256-555 mapping within an internal region of GLDC of human origin.

PRODUCT

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

APPLICATIONS

GLDC (A-9) is recommended for detection of GLDC 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of GLDC: 113 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Caco-2 cell lysate: sc-2262 or rat liver extract: sc-2395.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516140 or m-IgGκ BP-RTIC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA

GLDC (A-9): sc-376106. Western blot analysis of GLDC expression in Hep G2 (A) and Caco-2 (B) whole cell lysates and rat liver tissue extract (C).

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.