

GALT (H-300): sc-134713

BACKGROUND

GALT (galactose-1-phosphate uridylyltransferase) is a 379 amino acid member of the galactose-1-phosphate uridylyltransferase type 1 family of proteins. GALT exists as a homodimer and is believed to play a role in galactose metabolism. More specifically, GALT is responsible for catalyzing the reaction of UDP-glucose with α -D-galactose 1-phosphate to produce α -D-glucose 1-phosphate and UDP-galactose. This is the second step of the Leloir pathway of galactose metabolism. The products of this reaction will either enter the glycolytic pathway to yield energy (α -D-glucose 1-phosphate) or be used as a galactosyl donor in the synthesis of glycoproteins and glycolipids (UDP-galactose). Mutations in the gene encoding GALT can lead to galactosemia, a disorder (occurring from the inability to metabolize galactose) that is characterized by cataracts, mental retardation and jaundice. In newborns, galactosemia can be fatal if lactose is not removed from the diet.

REFERENCES

1. Reichardt, J.K. and Berg, P. 1988. Cloning and characterization of a cDNA encoding human galactose-1-phosphate uridylyl transferase. *Mol. Biol. Med.* 5: 107-122.
2. Reichardt, J.K., et al. 1992. Molecular characterization of two galactosemia mutations and one polymorphism: implications for structure-function analysis of human galactose-1-phosphate uridylyltransferase. *Biochemistry* 31: 5430-5433.
3. Ninfali, P., et al. 1996. Molecular basis of galactose-1-phosphate uridylyltransferase deficiency involving skeletal muscle. *J. Neurol.* 243: 102-103.
4. Goodman, M.T., et al. 2002. Association of galactose-1-phosphate uridylyltransferase activity and N314D genotype with the risk of ovarian cancer. *Am. J. Epidemiol.* 156: 693-701.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606999. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Karas, N., et al. 2003. Mutations in galactose-1-phosphate uridylyltransferase gene in patients with idiopathic presenile cataract. *J. Inher. Metab. Dis.* 26: 699-704.
7. Bosch, A.M., et al. 2004. From gene to disease; galactosemia and galactose-1-phosphate uridylyltransferase deficiency. *Ned. Tijdschr. Geneesk.* 148: 80-81.

CHROMOSOMAL LOCATION

Genetic locus: GALT (human) mapping to 9p13.3; Galt (mouse) mapping to 4 A5.

SOURCE

GALT (H-300) is a rabbit polyclonal antibody raised against amino acids 29-328 mapping within an internal region of GALT 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.

APPLICATIONS

GALT (H-300) is recommended for detection of GALT 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GALT (H-300) is also recommended for detection of GALT in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GALT siRNA (h): sc-92612, GALT siRNA (m): sc-145321, GALT shRNA Plasmid (h): sc-92612-SH, GALT shRNA Plasmid (m): sc-145321-SH, GALT shRNA (h) Lentiviral Particles: sc-92612-V and GALT shRNA (m) Lentiviral Particles: sc-145321-V.

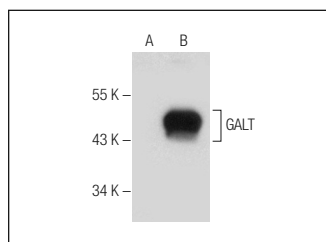
Molecular Weight of monomer GALT: 43 kDa.

Positive Controls: GALT (h): 293T Lysate: sc-371459, K-562 whole cell lysate: sc-2203 or human liver tissue extract.

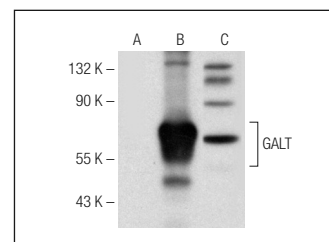
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (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-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

DATA



GALT (H-300): sc-134713. Western blot analysis of GALT expression in non-transfected: sc-117752 (A) and human GALT transfected: sc-371459 (B) 293T whole cell lysates.



GALT (H-300): sc-134713. Western blot analysis of GALT expression in non-transfected: sc-110760 (A) and human GALT transfected: sc-112246 (B) 293 whole cell lysates and human 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.