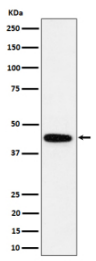
GALT Antibody / Galactose-1-phosphate uridylyltransferase [clone 29G81] (FY12978)

Catalog No.	Formulation	Size
FY12978	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	29G81
Purity	Affinity chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P07902
Applications	Western Blot : 1:500-1:2000 Immunocytochemistry/Immunofluorescence : 1:50-1:200
Limitations	This GALT antibody is available for research use only.



Western blot analysis of GALT expression in human K562 cell lysate using GALT antibody. Predicted molecular weight ~43 kDa.

Description

GALT antibody detects Galactose-1-phosphate uridylyltransferase, encoded by the GALT gene. This enzyme plays an

essential role in the Leloir pathway of galactose metabolism, where it catalyzes the transfer of uridylyl groups between UDP glucose and galactose-1-phosphate to form UDP galactose and glucose-1-phosphate. This reaction is central to the proper metabolism of dietary galactose, and deficiency in GALT activity leads to classic galactosemia, an inherited metabolic disorder. GALT antibody allows researchers to study enzyme expression, localization, and regulation in both normal physiology and disease contexts.

Galactose-1-phosphate uridylyltransferase is widely expressed in liver, kidney, and other metabolically active tissues. Research using GALT antibody has revealed that enzyme activity is tightly regulated, as accumulation of galactose-1-phosphate is toxic to cells. In classic galactosemia, mutations in the GALT gene result in absent or reduced activity, causing life threatening complications in infants such as liver failure, sepsis, and developmental delays. Early detection and dietary management are crucial, but long term complications still occur, making GALT antibody valuable in research aimed at improving therapies and understanding pathophysiology.

Beyond metabolic disorders, GALT has been studied in cancer and broader metabolic regulation. Alterations in carbohydrate metabolism are a hallmark of tumor cells, and studies using GALT antibody have suggested that reduced GALT activity may influence cancer cell growth through altered glycosylation and signaling pathways. In addition, polymorphisms in the GALT gene have been examined in population studies for their potential links to reproductive outcomes and susceptibility to metabolic stress. These investigations underscore the enzyme's relevance beyond rare genetic disease.

GALT antibody is widely used in western blotting, immunohistochemistry, and enzymatic activity assays. Western blotting confirms protein levels in cell and tissue lysates, while immunohistochemistry highlights tissue specific distribution. Functional assays combined with GALT antibody detection assess enzymatic activity under different experimental conditions, providing a comprehensive view of GALT regulation. These approaches make GALT antibody a powerful tool for metabolic research, clinical investigation, and biomarker development.

By supplying validated GALT antibody reagents, NSJ Bioreagents supports research into carbohydrate metabolism, genetic disease, and cancer biology. Detecting Galactose-1-phosphate uridylyltransferase provides insight into one of the most fundamental metabolic pathways and its connections to human health and disease.

Application Notes

Optimal dilution of the GALT antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human GALT was used as the immunogen for the GALT antibody.

Storage

Store the GALT antibody at -20oC.