Anti-GALT Antibody [JE64-66]

HA721092

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size: 43 kDa
Clone number:	JE64-66

Description: Galactose-1-phosphate uridylyltransferase (or GALT, G1PUT) is an enzyme responsible for converting ingested galactose to glucose. Deficiency of GALT causes classic galactosemia. Galactosemia is an autosomal recessive inherited disorder detectable in newborns and childhood. Classical galactosemia (G/G) is caused by a deficiency in GALT activity, whereas the more common clinical manifestations, Duarte (D/D) and the Duarte/Classical variant (D/G) are caused by the attenuation of GALT activity. Symptoms include ovarian failure, developmental coordination disorder (difficulty speaking correctly and consistently), and neurologic deficits. A single mutation in any of several base pairs can lead to deficiency in GALT activity. Screening has mostly eliminated neonatal death by G/G galactosemia, but the disease, due to GALT's role in the biochemical metabolism of ingested galactose (which is toxic when accumulated) to the energetically useful glucose, can certainly be fatal. However, those afflicted with galactosemia can live relatively normal lives by avoiding milk products and anything else containing galactose (because it cannot be metabolized), but there is still the potential for problems in neurological development or other complications, even in those who avoid galactose.

Immunogen: Synthetic peptide within human GALT aa 41-90/379.

Positive control: Hela cell lysate, HepG2 cell lysate, rat brain tissue lysate, mouse kidney tissue lysate, rat bladder tissue, mouse large intestine tissue, human kidney tissue.

Subcellular location: Cytosol, Golgi apparatus, cytoplasm.

Database links: SwissProt: P07902 Human | Q03249 Mouse | P43424 Rat

Recommended Dilutions:

WB	1:500
IHC-P	1:100-1:400

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

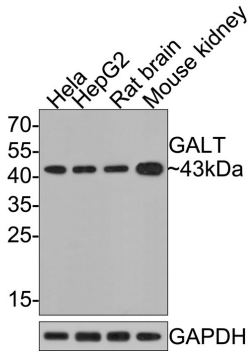

Fig1: Western blot analysis of GALT on different lysates with Rabbit anti-GALT antibody (HA721092) at 1/500 dilution.

Lane 1: Hela cell lysate (10 µg/Lane)
Lane 2: HepG2 cell lysate (10 µg/Lane)
Lane 3: Rat brain tissue lysate (20 µg/Lane)
Lane 4: Mouse kidney tissue lysate (20 µg/Lane)

Predicted band size: 43 kDa
Observed band size: 43 kDa

Exposure time: 2 minutes;

12% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721092) at 1/500 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:300,000 dilution was used for 1 hour at room temperature.

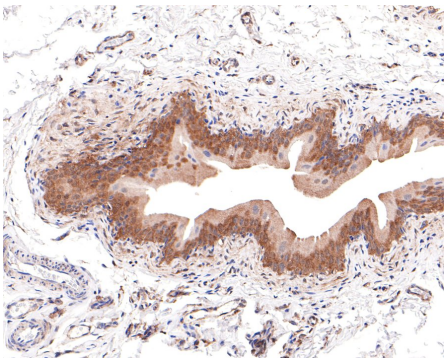

Fig2: Immunohistochemical analysis of paraffin-embedded rat bladder tissue with Rabbit anti-GALT antibody (HA721092) at 1/100 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721092) at 1/100 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

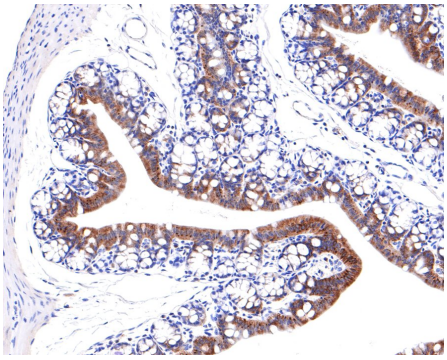

Fig3: Immunohistochemical analysis of paraffin-embedded mouse large intestine tissue with Rabbit anti-GALT antibody (HA721092) at 1/400 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721092) at 1/400 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

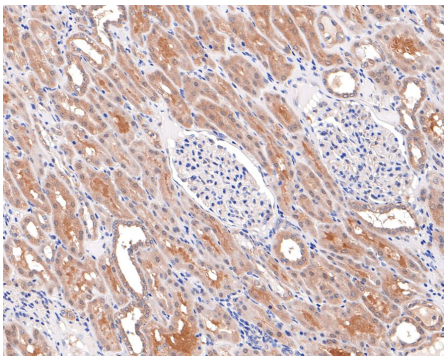

Fig4: Immunohistochemical analysis of paraffin-embedded human kidney tissue with Rabbit anti-GALT antibody (HA721092) at 1/400 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721092) at 1/400 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Background References

1. Latchman K. et. al. A founder noncoding GALT variant interfering with splicing causes galactosemia. J Inherit Metab Dis. 2020 Nov
2. Mörbe UM. et. al. Human gut-associated lymphoid tissues (GALT); diversity, structure, and function. Mucosal Immunol. 2021 Jul