Synaptic Systems

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BGT 1

Cat.No. 379 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Rabbit serum albumin was added for stabilization. For reconstitution add 50 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	**WB**: 1 : 1000 (AP staining) (see remarks) **IP**: not tested yet **ICC**: not tested yet **IHC**: not tested yet **IHC-P/FFPE**: not tested yet
Immunogen	Synthetic peptide corresponding to AA 567 to 614 from human BGT (UniProt Id: P48065)
Reactivity	Reacts with: human (P48065). Other species not tested yet.
Specificity	Specific for BGT 1
Remarks	**WB**: BGT 1 aggregates after boiling, making it necessary to run SDS-PAGE with non-boiled samples.

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

The sodium- and chloride-dependent **b**etaine-**G**ABA **t**ransporter **1** (**BGT 1**) is a member of the neurotransmitter-sodium-symporter transporter family. It mediates cellular uptake of betaine and GABA in a sodium- and chloride-dependent process.
BGT 1 is involved in betaine transport in the kidney medulla to withstand hyperosmolarity. BGT 1 also transports GABA but its exact role in brain is not yet fully understood.

Selected General References

The betaine/GABA transporter and betaine: roles in brain, kidney, and liver.
Kempson SA, Zhou Y, Danbolt NC
Frontiers in physiology (2014) 5: 159.

Upregulation of Na+,Cl(-)-coupled betaine/γ-amino-butyric acid transporter BGT1 by Tau tubulin kinase 2.
Almilaji A, Munoz C, Hosseinzadeh Z, Lang F
Cellular physiology and biochemistry : international journal of experimental cellular physiology, biochemistry, and pharmacology (2013) 32(2): 334-43.

Betaine transport in kidney and liver: use of betaine in liver injury.
Kempson SA, Vovor-Dassu K, Day C
Cellular physiology and biochemistry : international journal of experimental cellular physiology, biochemistry, and pharmacology (2013) 32(7): 32-40.

The betaine-GABA transporter (BGT1, slc6a12) is predominantly expressed in the liver and at lower levels in the kidneys and at the brain surface.
Zhou Y, Holmseth S, Hua R, Lehre AC, Olofsson AM, Poblete-Naredo I, Kempson SA, Danbolt NC
American journal of physiology. Renal physiology (2012) 302(3): F316-28.