SANTA CRUZ BIOTECHNOLOGY, INC.

BGT-1 (D-5): sc-514024

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

BGT-1, also known as sodium- and chloride-dependent betaine transporter, SLC6A12 (solute carrier family 6 member 12) or Na^+/Cl^- betaine/GABA transporter, is a 614 amino acid protein. As a multi-pass membrane protein, BGT-1 localizes to liver, heart, skeletal muscle and placenta and is widely distributed in brain. BGT-1 has the typical structure of neurotransmitter transporters, with 12 transmembrane domains and a large extracellular loop between the third and fourth transmembrane domains. BGT-1 transports betaine and GABA, and may have a role in regulation of GABAergic transmission in the brain through the reuptake of GABA into presynaptic terminals, as well as in osmotic regulation. BGT-1 is associated with mucus production in asthma, and could affect reversibility of lung function abnormalities in aspirin-intolerant asthma patients. BGT-1 displays significant functional differences from the other members of the GABA transporter family.

REFERENCES

1. Borden, L.A., et al. 1995. Cloning and expression of a betaine/GABA transporter from human brain. J. Neurochem. 64: 977-984.
2. Borden, L.A., et al. 1995. Re-evaluation of GABA transport in neuronal and glial cell cultures: correlation of pharmacology and mRNA localization. Recept. Channels 3: 129-146.
3. Denkert, C., et al. 1998. Osmolyte strategy in human monocytes and macrophages: involvement of $p38^{MAPK}$ in hyperosmotic induction of betaine and myoinositol transporters. Arch. Biochem. Biophys. 354: 172-180.

CHROMOSOMAL LOCATION

Genetic locus: SLC6A12 (human) mapping to 12p13.33; Slc6a12 (mouse) mapping to 6 F1.

SOURCE

BGT-1 (D-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 580-601 within a C-terminal cytoplasmic domain of BGT-1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BGT-1 (D-5) is available conjugated to agarose (sc-514024 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514024 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514024 PE), fluorescein (sc-514024 FITC), Alexa Fluor® 488 (sc-514024 AF488), Alexa Fluor® 546 (sc-514024 AF546), Alexa Fluor® 594 (sc-514024 AF594) or Alexa Fluor® 647 (sc-514024 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514024 AF680) or Alexa Fluor® 790 (sc-514024 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514024 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

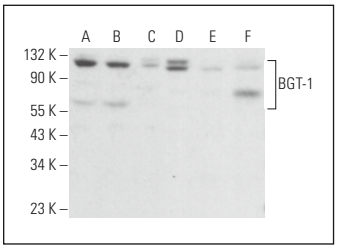
BGT-1 (D-5) is recommended for detection of BGT-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BGT-1 siRNA (h): sc-95904, BGT-1 siRNA (m): sc-141694, BGT-1 shRNA Plasmid (h): sc-95904-SH, BGT-1 shRNA Plasmid (m): sc-141694-SH, BGT-1 shRNA (h) Lentiviral Particles: sc-95904-V and BGT-1 shRNA (m) Lentiviral Particles: sc-141694-V.

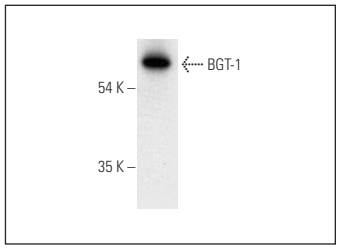
Molecular Weight of BGT-1: 69 kDa.

Positive Controls: rat brain extract: sc-2392, U-87 MG cell lysate: sc-2411 or U-251-MG whole cell lysate: sc-364176.

DATA



BGT-1 (D-5): sc-514024. Western blot analysis of BGT-1 expression in U-87 MG (**A**), U-251-MG (**B**), MDA-MB-231 (**C**), MIA PaCa-2 (**D**), Hep G2 (**E**) and U-937 (**F**) whole cell lysates.



BGT-1 (D-5): sc-514024. Western blot analysis of BGT-1 expression in rat brain tissue extract.

SELECT PRODUCT CITATIONS

1. De Paepe, B., et al. 2018. Induction of osmolyte pathways in skeletal muscle inflammation: novel biomarkers for myositis. Front. Neurol. 9: 846.
2. McColl, E.R. and Piquette-Miller, M. 2019. Poly(I:C) alters placental and fetal brain amino acid transport in a rat model of maternal immune activation. Am. J. Reprod. Immunol. 29: e13115.
3. Tsuboi, M., et al. 2023. Direct effect of 2-palmitoyl glycerol on promotion of γ aminobutyric acid synthesis in normal human fetal-derived astrocytes. FEBS Open Bio 13: 1320-1332.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.