



GOT1L1 (D-14): sc-87135

BACKGROUND

GOT1L1, Glutamate oxaloacetate transaminase 1-like protein 1, is a 421 amino acid member of the class-I pyridoxal-phosphate-dependent aminotransferase family. Similar to glutamate-oxaloacetate transaminase (GOT1), GOT1L1 is found primarily as a homodimer in the cytoplasmic space but also has mitochondrial and chloroplastic isozymes. GOT1L1 transaminates 2-oxoglutarate with L-aspartate to yield oxaloacetate and L-glutamate. This reaction requires a pyridoxal phosphate cofactor to occur. The GOT1L1 peptidase is predominately expressed in the liver and serum levels of this protein can be used as an indicator of liver disease. Also, elevated glutamate concentrations in the brain interstitial fluids can lead to pathological brain conditions. The glutamate-scavenging properties of these aminotransferase type enzymes likely prevent glutamate excitotoxicity and the long-lasting neurological deficits seen after stroke.

REFERENCES

- Dunathan, H.C. and Voet, J.G. 1974. Stereochemical evidence for the evolution of pyridoxal-phosphate enzymes of various function from a common ancestor. *Proc. Natl. Acad. Sci. USA* 71: 3888-3891.
- Chern, C.J. 1976. Localization of the structural genes for hexokinase-1 and inorganic pyrophosphatase on region (pter→q24) of human chromosome 10. *Cytogenet. Cell Genet.* 17: 338-342.
- Oboh, G. 2006. Tropical green leafy vegetables prevent garlic-induced hepatotoxicity in the rat. *J. Med. Food* 9: 545-551.
- Zlotnik, A., Gurevich, B., Tkachov, S., Maoz, I., Shapira, Y. and Teichberg, V.I. 2007. Brain neuroprotection by scavenging blood glutamate. *Exp. Neurol.* 203: 213-220.
- Uchiyama, K., Mori, K., Tabuse, K., Ueno, M., Ozawa, S., Nakase, T., Kawai, M., Tani, M., Tanimura, H. and Yamaue, H. 2008. Assessment of liver function for successful hepatectomy in patients with hepatocellular carcinoma with impaired hepatic function. *J. Hepatobiliary Pancreat. Surg.* 15: 596-602.
- Marosi, M., Fuzik, J., Nagy, D., Rákos, G., Kis, Z., Vécsei, L., Toldi, J., Ruban-Matuzani, A., Teichberg, V.I. and Farkas, T. 2009. Oxaloacetate restores the long-term potentiation impaired in rat hippocampus CA1 region by 2-vessel occlusion. *Eur. J. Pharmacol.* 604: 51-57.

CHROMOSOMAL LOCATION

Genetic locus: GOT1L1 (human) mapping to 8p12; Got1l1 (mouse) mapping to 8 A2.

SOURCE

GOT1L1 (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GOT1L1 of human origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-87135 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GOT1L1 (D-14) is recommended for detection of GOT1L1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 GOT1L1 siRNA (h): sc-77450, GOT1L1 siRNA (m): sc-145675, GOT1L1 shRNA Plasmid (h): sc-77450-SH, GOT1L1 shRNA Plasmid (m): sc-145675-SH, GOT1L1 shRNA (h) Lentiviral Particles: sc-77450-V and GOT1L1 shRNA (m) Lentiviral Particles: sc-145675-V.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

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