

GDAP1 (H-57): sc-98516

BACKGROUND

Glutathione S-transferases (GSTs) function to conjugate reduced glutathione to many exogenous and endogenous hydrophobic electrophiles. Although it shares the carboxy- and amino-terminal glutathione S-transferase domains, GDAP1 (ganglioside-induced differentiation-associated protein 1) is characterized as a GST-like protein because it contains an extended GST domain II and a predicted transmembrane domain, two characteristics which are unusual for GST family members. GDAP1 may function in a signal transduction pathway that is responsible for ganglioside-induced neurite differentiation and also may play a role in protecting myelin membranes from free-radical damage. Mutations in the gene encoding GDAP1 is the cause of many forms of Charcot-Marie-Tooth disease, a common inherited disorder of the peripheral nervous system that is characterized by reduced nerve conduction velocities, slow progressive distal muscle atrophy and absent deep tendon reflexes.

REFERENCES

1. Marco, A., et al. 2004. Evolutionary and structural analyses of GDAP1, involved in Charcot-Marie-Tooth disease, characterize a novel class of glutathione transferase-related genes. *Mol. Biol. Evol.* 21: 176-187.
2. Kabzinska, D., et al. 2007. Charcot-Marie-Tooth disease type 4C4 caused by a novel Pro153Leu substitution in the GDAP1 gene. *Acta Myol.* 26: 108-111.
3. Sevilla, T., et al. 2008. Vocal cord paresis and diaphragmatic dysfunction are severe and frequent symptoms of GDAP1-associated neuropathy. *Brain* 131: 3051-3061.
4. Xin, B., et al. 2008. A novel mutation in the GDAP1 gene is associated with autosomal recessive Charcot-Marie-Tooth disease in an Amish family. *Clin. Genet.* 74: 274-278.
5. Cassereau, J., et al. 2008. Mitochondrial complex I deficiency in GDAP1-related autosomal dominant Charcot-Marie-Tooth disease (CMT2K). *Neurogenetics* 10: 145-150.
6. Auer-Grumbach, M., et al. 2008. Two novel mutations in the GDAP1 and PRX genes in early onset Charcot-Marie-Tooth syndrome. *Neuropediatrics* 39: 33-38.
7. Rougeot, C., et al. 2008. Clinical, electrophysiological and genetic studies of two families with mutations in the GDAP1 gene. *Neuropediatrics* 39: 184-187.

CHROMOSOMAL LOCATION

Genetic locus: GDAP1 (human) mapping to 8q21.11; Gdap1 (mouse) mapping to 1 A3.

SOURCE

GDAP1 (H-57) is a rabbit polyclonal antibody raised against amino acids 151-207 mapping within an internal region of GDAP1 of human origin.

PRODUCT

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

APPLICATIONS

GDAP1 (H-57) is recommended for detection of GDAP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

GDAP1 (H-57) is also recommended for detection of GDAP1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GDAP1 siRNA (h): sc-77458, GDAP1 siRNA (m): sc-145369, GDAP1 shRNA Plasmid (h): sc-77458-SH, GDAP1 shRNA Plasmid (m): sc-145369-SH, GDAP1 shRNA (h) Lentiviral Particles: sc-77458-V and GDAP1 shRNA (m) Lentiviral Particles: sc-145369-V.

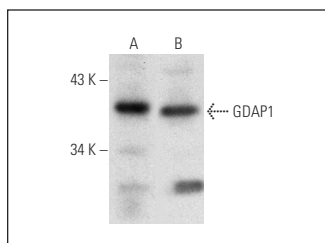
Molecular Weight of GDAP1: 41 kDa.

Positive Controls: mouse brain extract: sc-2253 or SH-SY5Y cell lysate: sc-3812.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



GDAP1 (H-57): sc-98516. Western blot analysis of GDAP1 expression in mouse brain tissue extract (A) and SH-SY5Y whole cell lysate (B).

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.