

UGCG (E-14): sc-33869

BACKGROUND

Glucosylceramide synthase (GCS), also designated ceramide glucosyltransferase, belongs to the glycosyltransferase 2 family. It is a widely expressed integral membrane protein encoded by UGCG. The enzyme can be found in the plasma membrane of all eukaryotic cells, and a significant concentration of glucosylceramide synthase activity has been reported in the Golgi complex. Glucosylceramide synthase catalyzes the first glycosylation step in glycosphingolipid biosynthesis and functions as a glucosyltransferase and flippase in the transfer of glucose to ceramide. Glucosylceramide synthase operates in cell recognition, cell proliferation and differentiation, immune recognition and signal transduction. The regulation of ceramide levels through glucosylceramide synthase has been associated with the induction of apoptosis and notable research implicates this relationship with drug-induced apoptosis in a variety of cell types.

REFERENCES

- Hakomori, S., et al. 1990. Bifunctional role of glycosphingolipids. Modulators for transmembrane signaling and mediators for cellular interactions. *J. Biol. Chem.* 265: 18713-18716.
- Ichikawa, S., et al. 1996. Expression cloning of a cDNA for human ceramide glucosyltransferase that catalyzes the first glycosylation step of glycosphingolipid synthesis. *Proc. Natl. Acad. Sci. USA* 93: 4638-4643.
- Paul, P., et al. 1996. Purification and characterization of UDP-glucose: ceramide glucosyltransferase from rat liver Golgi membranes. *J. Biol. Chem.* 271: 2287-2293.
- Watanabe, R., et al. 1998. Up-regulation of glucosylceramide synthase expression and activity during human keratinocyte differentiation. *J. Biol. Chem.* 273: 9651-9655.
- Liu, Y.Y., et al. 1999. Expression of glucosylceramide synthase, converting ceramide to glucosylceramide, confers adriamycin resistance in human breast cancer cells. *J. Biol. Chem.* 274: 1140-1146.
- Uchida, Y., et al. 2004. Ceramide reduction and transcriptional up-regulation of glucosylceramide synthase through doxorubicin-activated Sp1 in drug-resistant HL-60/ADR cells. *Cancer Res.* 64: 6271-9279.
- SWISS-PROT/TrEMBL (Q16739). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: UGCG (human) mapping to 9q31.3; Ugcg (mouse) mapping to 4 B3.

SOURCE

UGCG (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of glucosylceramide synthase 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-33869 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

UGCG (E-14) is recommended for detection of glucosylceramide synthase 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).

UGCG (E-14) is also recommended for detection of glucosylceramide synthase in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for UGCG siRNA (h): sc-45404, UGCG siRNA (m): sc-45405, UGCG shRNA Plasmid (h): sc-45404-SH, UGCG shRNA Plasmid (m): sc-45405-SH, UGCG shRNA (h) Lentiviral Particles: sc-45404-V and UGCG shRNA (m) Lentiviral Particles: sc-45405-V.

Molecular Weight of UGCG: 38 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211.

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.


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Try **UGCG (1E5): sc-293235**, our highly recommended monoclonal alternative to UGCG (E-14).