Glycogenin-2 (h): 293T Lysate: sc-113712



The Power to Question

BACKGROUND

Glycogenin-2, also known as GYG2 or GN2, is a 501 amino acid protein that belongs to the glycogenin family and exists as six alternatively spliced isoforms, designated $\alpha,\,\beta,\,\gamma,\,\delta,\,\epsilon$ and $\zeta.$ Preferentially expressed in heart, pancreas and liver, Glycogenin-2 functions as a homodimer that uses divalent metal ions as cofactors to catalyze self-glucosylation, thereby producing an oligosaccharide primer that serves as a substrate for glycogen synthase and is thought to regulate glycogen accumulation within the cell. The gene encoding Glycogenin-2 maps to human chromosome X, which contains nearly 153 million base pairs and houses over 1,000 genes. In conjunction with chromosome Y, chromosome X is responsible for sex determination. There are a number of conditions related to an abnormal number and combination of sex chromosomes, some of which include Turner's syndrome, color blindness, hemophilia and Duchenne muscular dystrophy.

REFERENCES

- 1. Bao, Y., Kishnani, P., Wu, J.Y. and Chen, Y.T. 1996. Hepatic and neuromuscular forms of glycogen storage disease type IV caused by mutations in the same glycogen-branching enzyme gene. J. Clin. Invest. 97: 941-948.
- Mu, J., Skurat, A.V. and Roach, P.J. 1997. Glycogenin-2, a novel self-glucosylating protein involved in liver glycogen biosynthesis. J. Biol. Chem. 272: 27589-27597.
- Roach, P.J., Cheng, C., Huang, D., Lin, A., Mu, J., Skurat, A.V., Wilson, W. and Zhai, L. 1998. Novel aspects of the regulation of glycogen storage.
 J. Basic Clin. Physiol. Pharmacol. 9: 139-151.
- Mu, J. and Roach, P.J. 1998. Characterization of human Glycogenin-2, a self-glucosylating initiator of liver glycogen metabolism. J. Biol. Chem. 273: 34850-34856.
- 5. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 300198. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- Zhai, L., Mu, J., Zong, H., DePaoli-Roach, A.A. and Roach, P.J. 2000. Structure and chromosomal localization of the human Glycogenin-2 gene GYG2. Gene 242: 229-235.
- 7. Zhai, L., Schroeder, J., Skurat, A.V. and Roach, P.J. 2001. Do rodents have a gene encoding Glycogenin-2, the liver isoform of the self-glucosylating initiator of glycogen synthesis? IUBMB Life 51: 87-91.
- Gibbons, B.J., Roach, P.J. and Hurley, T.D. 2002. Crystal structure of the autocatalytic initiator of glycogen biosynthesis, glycogenin. J. Mol. Biol. 319: 463-477.

CHROMOSOMAL LOCATION

Genetic locus: GYG2 (human) mapping to Xp22.33.

PRODUCT

Glycogenin-2 (h): 293T Lysate represents a lysate of human Glycogenin-2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

Glycogenin-2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Glycogenin-2 antibodies.

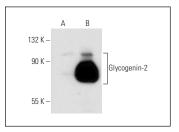
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Glycogenin-2 (3L10): sc-134346 is recommended as a positive control antibody for Western Blot analysis of enhanced human Glycogenin-2 expression in Glycogenin-2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG κ BP-HRP: sc-516102 or m-lgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Glycogenin-2 (3L10): sc-134346. Western blot analysis of Glycogenin-2 expression in non-transfected: sc-117752 (A) and human Glycogenin-2 transfected: sc-113712 (B) 2931 whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.

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