

UGP2 (h2): 293T Lysate: sc-116020

BACKGROUND

UGP2 (UDP-glucose pyrophosphorylase 2), also known as UDPG, UGPP2, UDPGP2 or pH379, is an evolutionarily conserved protein belonging to the UDPGP type 1 family of proteins. Localizing to the cytoplasm, UGP2 forms homo-oligomers and is believed to function as a glucosyl donor in cellular metabolic pathways. More specifically, UGP2 catalyzes the transfer of a glucose moiety from glucose-1-phosphate to UTP, producing a diphosphate and UDP-glucose. UDP-glucose is an essential precursor for the synthesis of polysaccharides; in liver and muscle, UDP-glucose is a precursor of glycogen, in liver UDP-glucose is also a precursor of UDP-glucuronate, and in lactating mammary gland UDP-glucose is converted to UDP-galactose and then to lactose.

REFERENCES

- Shows, T.B., Brown, J.A., Goggin, A.P., Haley, L.L., Byers, M.G. and Eddy, R.L. 1978. Assignment of a molecular form of UDP-glucose pyrophosphorylase (UGPP2) to chromosome 2 in man. *Cytogenet. Cell Genet.* 22: 215-218.
- Peng, H.L. and Chang, H.Y. 1993. Cloning of a human liver UDP-glucose pyrophosphorylase cDNA by complementation of the bacterial galU mutation. *FEBS Lett.* 329: 153-158.
- Duggleby, R.G., Peng, H.L. and Chang, H.Y. 1996. An improved assay for UDP-glucose pyrophosphorylase and other enzymes that have nucleotide products. *Experientia* 52: 568-572.
- Duggleby, R.G., Chao, Y.C., Huang, J.G., Peng, H.L. and Chang, H.Y. 1996. Sequence differences between human muscle and liver cDNAs for UDP-glucose pyrophosphorylase and kinetic properties of the recombinant enzymes expressed in *Escherichia coli*. *Eur. J. Biochem.* 235: 173-179.
- Chang, H.Y., Peng, H.L., Chao, Y.C. and Duggleby, R.G. 1996. The importance of conserved residues in human liver UDP-glucose pyrophosphorylase. *Eur. J. Biochem.* 236: 723-728.
- Cheng, S.D., Peng, H.L. and Chang, H.Y. 1997. Localization of the human UGP2 gene encoding the muscle isoform of UDP-glucose pyrophosphorylase to 2p13-p14 by fluorescence *in situ* hybridization. *Genomics* 39: 414-416.
- Lai, K. and Elsas, L.J. 2000. Overexpression of human UDP-glucose pyrophosphorylase rescues galactose-1-phosphate uridylyltransferase-deficient yeast. *Biochem. Biophys. Res. Commun.* 271: 392-400.
- Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 191760: World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Geisler, M., Wilczynska, M., Karpinski, S. and Kleczkowski, L.A. 2004. Toward a blueprint for UDP-glucose pyrophosphorylase structure/function properties: homology-modeling analyses. *Plant Mol. Biol.* 56: 783-794.

CHROMOSOMAL LOCATION

Genetic locus: UGP2 (human) mapping to 2p15.

PRODUCT

UGP2 (h2): 293T Lysate represents a lysate of human UGP2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

UGP2 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive UGP2 antibodies. Recommended use: 10-20 µl per lane.

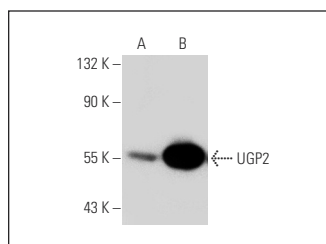
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

UGP2 (34-B): sc-100491 is recommended as a positive control antibody for Western Blot analysis of enhanced human UGP2 expression in UGP2 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-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



UGP2 (34-B): sc-100491. Western blot analysis of UGP2 expression in non-transfected: sc-117752 (A) and human UGP2 transfected: sc-116020 (B) 293T 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.