SANTA CRUZ BIOTECHNOLOGY, INC.

UGP2 (C-6): sc-514174

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

UGP2 (UDP-glucose pyrophosphorylase 2), also known as UDPG, UGPP2, UDPGP2 or pHC379, is an evolutionarily conserved protein belonging to the UDPGP type 1 family of proteins. Localizing to the cytoplasm, UGP2 forms homooligomers 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

1. Shows, T.B., et al. 1978. Assignment of a molecular form of UDP glucose pyrophosphorylase (UGPP2) to chromosome 2 in man. Cytogenet. Cell Genet. 22: 215-218.
2. Peng, H.L., et al. 1993. Cloning of a human liver UDP-glucose pyrophosphorylase cDNA by complementation of the bacterial galU mutation. FEBS Lett. 329: 153-158.
3. Duggleby, R.G., et al. 1996. An improved assay for UDPglucose pyrophosphorylase and other enzymes that have nucleotide products. Experientia 52: 568-572.
4. Duggleby, R.G., et al. 1996. Sequence differences between human muscle and liver cDNAs for UDPglucose pyrophosphorylase and kinetic properties of the recombinant enzymes expressed in *Escherichia coli*. Eur. J. Biochem. 235: 173-179.
5. Chang, H.Y., et al. 1996. The importance of conserved residues in human liver UDPglucose pyrophosphorylase. Eur. J. Biochem. 236: 723-728.

CHROMOSOMAL LOCATION

Genetic locus: UGP2 (human) mapping to 2p15; Ugp2 (mouse) mapping to 11 A3.1.

SOURCE

UGP2 (C-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 427-452 near the C-terminus of UGP2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514174 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

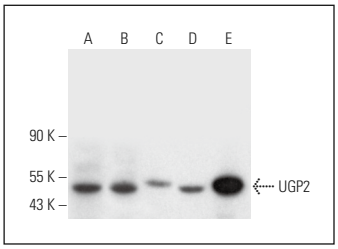
UGP2 (C-6) is recommended for detection of UGP2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for UGP2 siRNA (h): sc-94682, UGP2 siRNA (m): sc-154894, UGP2 shRNA Plasmid (h): sc-94682-SH, UGP2 shRNA Plasmid (m): sc-154894-SH, UGP2 shRNA (h) Lentiviral Particles: sc-94682-V and UGP2 shRNA (m) Lentiviral Particles: sc-154894-V.

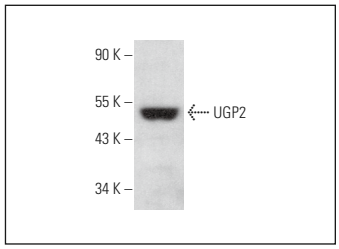
Molecular Weight of UGP2: 56 kDa.

Positive Controls: human liver extract: sc-363766, A2058 whole cell lysate: sc-364178 or Hep G2 cell lysate: sc-2227.

DATA



UGP2 (C-6): sc-514174. Western blot analysis of UGP2 expression in Hep G2 (**A**), NCI-H1299 (**B**), HeLa (**C**) and A2058 (**D**) whole cell lysates and human liver tissue extract (**E**).



UGP2 (C-6): sc-514174. Western blot analysis of UGP2 expression in Caco-2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Perenthaler, E., et al. 2020. Loss of UGP2 in brain leads to a severe epileptic encephalopathy, emphasizing that bi-allelic isoform-specific start-loss mutations of essential genes can cause genetic diseases. Acta Neuropathol. 139: 415-442.
2. Canibano-Fraile, R., et al. 2023. Lysosomal glycogen accumulation in Pompe disease results in disturbed cytoplasmic glycogen metabolism. J. Inherit. Metab. Dis. 46: 101-115.

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.