

GRHPR (I-15): sc-162900

BACKGROUND

GRHPR (glyoxylate reductase/hydroxypyruvate reductase), also known as GLXR, is a member of the D-isomer specific 2-hydroxyacid dehydrogenase family of proteins. Localizing to the cytosol, GRHPR is ubiquitously expressed with highest expression levels found in liver. Functioning as a homodimer, GRHPR plays a role in metabolism by removing the highly reactive two carbon acid by-product glyoxylate through a reduction reaction which yields glycolate. In addition, GRHPR contains hydroxypyruvate reductase activity and D-glycerate dehydrogenase activity. Mutations in the gene encoding GRHPR that impair its ability to reduce glyoxylate can result in primary hyperoxaluria type II (PH2 or HP2), a disease characterized by the formation of kidney stones, increased urinary excretion of L-glycerate and oxalate and renal failure.

REFERENCES

1. Cramer, S.D., et al. 1999. The gene encoding hydroxypyruvate reductase (GRHPR) is mutated in patients with primary hyperoxaluria type II. *Hum. Mol. Genet.* 8: 2063-2069.
2. Rumsby, G. and Cregeen, D.P. 1999. Identification and expression of a cDNA for human hydroxypyruvate/glyoxylate reductase. *Biochim. Biophys. Acta* 1446: 383-388.
3. Webster, K.E., et al. 2000. Identification of missense, nonsense, and deletion mutations in the GRHPR gene in patients with primary hyperoxaluria type II (PH2). *Hum. Genet.* 107: 176-185.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604296. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Mdluli, K., et al. 2005. A preliminary account of the properties of recombinant human glyoxylate reductase (GRHPR), LDHA and LDHB with glyoxylate, and their potential roles in its metabolism. *Biochim. Biophys. Acta* 1753: 209-216.
6. Bhat, S., et al. 2005. Tissue differences in the expression of mutations and polymorphisms in the GRHPR gene and implications for diagnosis of primary hyperoxaluria type 2. *Clin. Chem.* 51: 2423-2425.

CHROMOSOMAL LOCATION

Genetic locus: GRHPR (human) mapping to 9p13.2; Grhpr (mouse) mapping to 4 B1.

SOURCE

GRHPR (I-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GRHPR 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

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-162900 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GRHPR (I-15) is recommended for detection of GRHPR 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).

GRHPR (I-15) is also recommended for detection of GRHPR in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GRHPR siRNA (h): sc-92675, GRHPR siRNA (m): sc-145763, GRHPR shRNA Plasmid (h): sc-92675-SH, GRHPR shRNA Plasmid (m): sc-145763-SH, GRHPR shRNA (h) Lentiviral Particles: sc-92675-V and GRHPR shRNA (m) Lentiviral Particles: sc-145763-V.

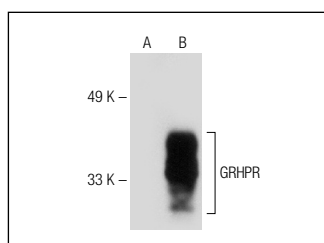
Molecular Weight of GRHPR: 36 kDa.

Positive Controls: GRHPR (h2): 293T Lysate: sc-128735.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



GRHPR (I-15): sc-162900. Western blot analysis of GRHPR expression in non-transfected: sc-117752 (A) and human GRHPR transfected: sc-128735 (B) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.