

GRHPR (D-2): sc-271494

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.

CHROMOSOMAL LOCATION

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

SOURCE

GRHPR (D-2) is a mouse monoclonal antibody raised against amino acids 86-200 mapping within an internal region of GRHPR of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GRHPR (D-2) is available conjugated to agarose (sc-271494 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271494 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271494 PE), fluorescein (sc-271494 FITC), Alexa Fluor[®] 488 (sc-271494 AF488), Alexa Fluor[®] 546 (sc-271494 AF546), Alexa Fluor[®] 594 (sc-271494 AF594) or Alexa Fluor[®] 647 (sc-271494 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271494 AF680) or Alexa Fluor[®] 790 (sc-271494 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

GRHPR (D-2) is recommended for detection of GRHPR 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 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.

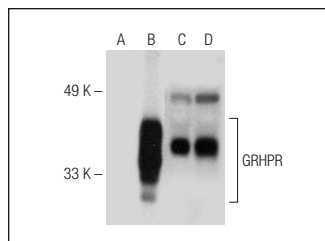
Molecular Weight of GRHPR: 36 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, Hep G2 whole cell lysate: sc-2227 or GRHPR (h): 293T Lysate: sc-128735.

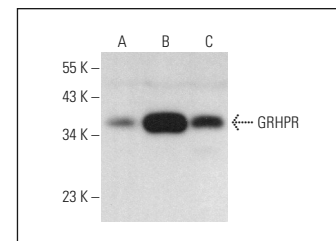
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



GRHPR (D-2): sc-271494. Western blot analysis of GRHPR expression in non-transfected 293T: sc-117752 (A), human GRHPR transfected 293T: sc-128735 (B), MCF7 (C) and Hep G2 (D) whole cell lysates.



GRHPR (D-2): sc-271494. Western blot analysis of GRHPR expression in MCF7 (A), Raji (B) and HL-60 (C) whole cell lysates.

STORAGE

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

RESEARCH USE

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

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