

HGD (C-5): sc-376276

BACKGROUND

HGD (homogentisate 1,2-dioxygenase), also known as HGO (homogentisate oxygenase), is a 445 amino acid protein that belongs to the homogentisate dioxygenase family and is involved in the pathway of amino acid degradation. Expressed at high levels in kidney, colon, liver, prostate and small intestine, HGD uses iron as a cofactor to catalyze the oxygen-dependent conversion of homogentisate to 4-maleylacetoacetate, a reaction that is the fourth step in the creation of L-phenylalanine from fumarate and acetoacetic acid. Defects in the gene encoding HGD are the cause of alkaptonuria (AKU), an autosomal recessive disorder that is characterized by urine that turns dark on standing and alkalization, black ochronotic pigmentation of cartilage and collagenous tissues and spine arthritis.

REFERENCES

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- Janocha, S., et al. 1994. The human gene for alkaptonuria (AKU) maps to chromosome 3q. *Genomics* 19: 5-8.
- Hudecová, S., et al. 1995. Purification of the homogentisic acid oxidase from mammalian liver. *Int. J. Biochem. Cell Biol.* 27: 1357-1363.
- Granadino, B., et al. 1997. The human homogentisate 1,2-dioxygenase (HGO) gene. *Genomics* 43: 115-122.
- Beltrán-Valero de Bernabé, D., et al. 1998. Mutation and polymorphism analysis of the human homogentisate 1, 2-dioxygenase gene in alkaptonuria patients. *Am. J. Hum. Genet.* 62: 776-784.
- Ramos, S.M., et al. 1998. Molecular diagnosis of alkaptonuria mutation by analysis of homogentisate 1,2 dioxygenase mRNA from urine and blood. *Am. J. Med. Genet.* 78: 192-194.

CHROMOSOMAL LOCATION

Genetic locus: HGD (human) mapping to 3q13.33; Hgd (mouse) mapping to 16 B3.

SOURCE

HGD (C-5) is a mouse monoclonal antibody raised against amino acids 97-229 mapping near the N-terminus of HGD 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.

HGD (C-5) is available conjugated to agarose (sc-376276 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376276 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376276 PE), fluorescein (sc-376276 FITC), Alexa Fluor® 488 (sc-376276 AF488), Alexa Fluor® 546 (sc-376276 AF546), Alexa Fluor® 594 (sc-376276 AF594) or Alexa Fluor® 647 (sc-376276 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376276 AF680) or Alexa Fluor® 790 (sc-376276 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

HGD (C-5) is recommended for detection of HGD 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), immunohistochemistry (including paraffin-embedded sections) (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 HGD siRNA (h): sc-75249, HGD siRNA (m): sc-75250, HGD shRNA Plasmid (h): sc-75249-SH, HGD shRNA Plasmid (m): sc-75250-SH, HGD shRNA (h) Lentiviral Particles: sc-75249-V and HGD shRNA (m) Lentiviral Particles: sc-75250-V.

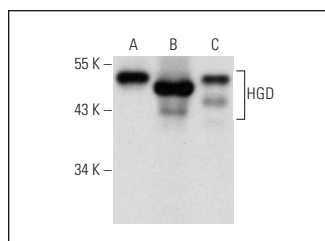
Molecular Weight of HGD: 50 kDa.

Positive Controls: mouse liver extract: sc-2256, human liver extract: sc-363766 or human kidney extract: sc-363764.

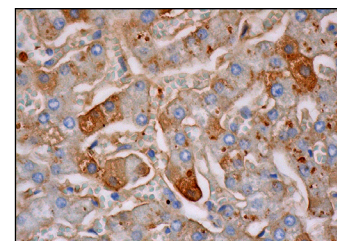
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



HGD (C-5): sc-376276. Western blot analysis of HGD expression in human liver (A), mouse liver (B) and human kidney (C) tissue extracts.



HGD (C-5): sc-376276. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of subset of hepatocytes.

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.