

UROD (C-4): sc-365297

BACKGROUND

Uroporphyrinogen decarboxylase, also known as UROD or UPD, is a 367 amino acid protein that exists as a homodimer. UROD is the fifth enzyme in the human heme biosynthetic pathway and is responsible for the conversion of uroporphyrinogen to coproporphyrinogen through the removal of four carboxymethyl side chains. Mutations in the UROD gene are responsible for three autosomal disorders in humans: familial porphyria cutanea tarda (f-PCT), sporadic porphyria cutanea tarda (s-PCT) and hepatoerythropoietic porphyria (HEP). F-PCT is an autosomal dominant disorder characterized by late-onset light-sensitive dermatitis. High levels of uroporphyrin excretion in the urine and varying degrees of liver damage are associated with this disease. S-PCT is an idiosyncratic form of PCT that is characterized by a reduction of liver enzymes. HEP is an autosomal recessive disorder that affects infants. It is characterized by excessive excretion of acetate-substituted porphyrins and accumulation of protoporphyrin in erythrocytes.

REFERENCES

1. Moran-Jimenez, M.J., et al. 1996. Uroporphyrinogen decarboxylase: complete human gene sequence and molecular study of three families with hepatoerythropoietic porphyria. *Am. J. Hum. Genet.* 58: 712-721.
2. Phillips, J.D., et al. 1997. Characterization and crystallization of human uroporphyrinogen decarboxylase. *Protein Sci.* 6: 1343-1346.
3. Akhtar, R.A. and Smith, A.G. 1998. Chromosomal linkage analysis of porphyria in mice induced by hexachlorobenzene-iron synergism: a model of sporadic porphyria cutanea tarda. *Pharmacogenetics* 8: 485-494.

CHROMOSOMAL LOCATION

Genetic locus: UROD (human) mapping to 1p34.1; Urod (mouse) mapping to 4 D1.

SOURCE

UROD (C-4) is a mouse monoclonal antibody raised against a peptide mapping near the N-terminus of UROD 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.

UROD (C-4) is available conjugated to agarose (sc-365297 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365297 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365297 PE), fluorescein (sc-365297 FITC), Alexa Fluor® 488 (sc-365297 AF488), Alexa Fluor® 546 (sc-365297 AF546), Alexa Fluor® 594 (sc-365297 AF594) or Alexa Fluor® 647 (sc-365297 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365297 AF680) or Alexa Fluor® 790 (sc-365297 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365297 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

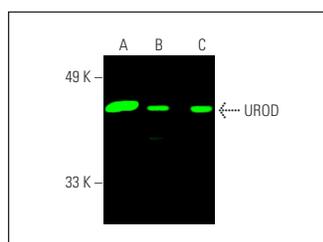
UROD (C-4) is recommended for detection of UROD of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 UROD siRNA (h): sc-88548, UROD siRNA (m): sc-154937, UROD shRNA Plasmid (h): sc-88548-SH, UROD shRNA Plasmid (m): sc-154937-SH, UROD shRNA (h) Lentiviral Particles: sc-88548-V and UROD shRNA (m) Lentiviral Particles: sc-154937-V.

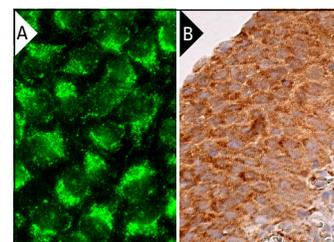
Molecular Weight of UROD: 41 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Hep G2 cell lysate: sc-2227.

DATA



UROD (C-4): sc-365297. Near-Infrared western blot analysis of UROD expression in K-562 (A), HeLa (B) and Hep G2 (C) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



UROD (C-4): sc-365297. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells (B).

SELECT PRODUCT CITATIONS

1. Palasuberniam, P., et al. 2019. Ferrochelatase deficiency abrogated the enhancement of aminolevulinic acid-mediated protoporphyrin IX by iron chelator deferoxamine. *Photochem. Photobiol.* 95: 1052-1059.
2. Wang, W., et al. 2021. Tandem mass tag-based proteomic analysis of potential biomarkers for hepatocellular carcinoma differentiation. *Oncotargets Ther.* 14: 1007-1020.
3. Kronstein-Wiedemann, R., et al. 2022. SARS-CoV-2 infects red blood cell progenitors and dysregulates hemoglobin and iron metabolism. *Stem Cell Rev. Rep.* 18: 1809-1821.

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.