

BLVRB (B-9): sc-373692

BACKGROUND

BLVRB (biliverdin reductase B or BVR-B), also known as flavin reductase (FR), NADPH-dependent diaphorase, biliverdin-IX β -reductase or green heme-binding protein (GHBP) is an enzyme involved in fetal heme metabolism. It is dependent on NADPH and is responsible for catalyzing the transfer of electrons to flavins from reduced pyridine nucleotides. BLVRB exists as a monomer, localizes to the cytoplasm and is highly expressed in fetal liver and adult erythrocytes and, to a lesser extent, in heart, lung, cerebrum and adrenal gland. In liver, BLVRB functions to convert biliverdin (isoforms IX β , IX γ and IX δ) to bilirubin. BLVRB contains one binding site for all of its substrates and predominantly interacts with them through hydrophobic interactions. BLVRB also exhibits ferric reductase activity. In addition, it is commonly used as a reliable marker for NOS.

REFERENCES

- Shalloe, F., et al. 1996. Evidence that biliverdin-IX β reductase and flavin reductase are identical. *Biochem. J.* 316: 385-387.
- Komuro, A., et al. 1996. Molecular cloning and expression of human liver biliverdin-IX β reductase. *Biol. Pharm. Bull.* 19: 796-804.
- Cunningham, O., et al. 2000. Studies on the specificity of the tetrapyrrole substrate for human biliverdin-IX α reductase and biliverdin-IX β reductase. Structure-activity relationships define models for both active sites. *J. Biol. Chem.* 275: 19009-19017.
- Cunningham, O., et al. 2000. Initial-rate kinetics of the flavin reductase reaction catalysed by human biliverdin-IX β reductase (BVR-B). *Biochem. J.* 345: 393-399.
- Pereira, P.J., et al. 2001. Structure of human biliverdin IX β reductase, an early fetal bilirubin IX β producing enzyme. *Nat. Struct. Biol.* 8: 215-220.

CHROMOSOMAL LOCATION

Genetic locus: BLVRB (human) mapping to 19q13.2; Bvlrb (mouse) mapping to 7 A3.

SOURCE

BLVRB (B-9) is a mouse monoclonal antibody raised against amino acids 1-206 representing full length BLVRB of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BLVRB (B-9) is available conjugated to agarose (sc-373692 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373692 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373692 PE), fluorescein (sc-373692 FITC), Alexa Fluor[®] 488 (sc-373692 AF488), Alexa Fluor[®] 546 (sc-373692 AF546), Alexa Fluor[®] 594 (sc-373692 AF594) or Alexa Fluor[®] 647 (sc-373692 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-373692 AF680) or Alexa Fluor[®] 790 (sc-373692 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

BLVRB (B-9) is recommended for detection of BLVRB of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 BLVRB siRNA (h): sc-62021, BLVRB siRNA (m): sc-62022, BLVRB shRNA Plasmid (h): sc-62021-SH, BLVRB shRNA Plasmid (m): sc-62022-SH, BLVRB shRNA (h) Lentiviral Particles: sc-62021-V and BLVRB shRNA (m) Lentiviral Particles: sc-62022-V.

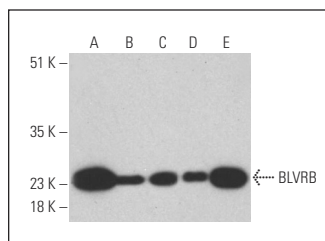
Molecular Weight of BLVRB: 21 kDa.

Positive Controls: U266 whole cell lysate: sc-364800, HeLa whole cell lysate: sc-2200 or A549 cell lysate: sc-2413.

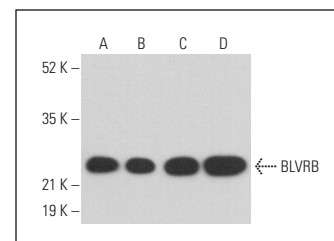
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



BLVRB (B-9) HRP: sc-373692 HRP. Direct western blot analysis of BLVRB expression in K-562 (A), Hep G2 (B), U266 (C), HeLa (D) and A549 (E) whole cell lysates.



BLVRB (B-9): sc-373692. Western blot analysis of BLVRB expression in U266 (A), Caco-2 (B), HeLa (C) and A549 (D) whole cell lysates. Detection reagent used: m-IgG κ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

- Ogawa, Y. and Imamoto, N. 2021. Methods to separate nuclear soluble fractions reflecting localizations in living cells. *iScience* 24: 103503.

STORAGE

Store at 4 $^{\circ}$ 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.