

## BLVRA (2E4): sc-100511

### BACKGROUND

In human liver cytosolic fractions, four forms of biliverdin reductase have been identified, including two biliverdin-IX  $\beta$  reductases and two biliverdin-IX  $\alpha$  reductases, designated isozymes I and II and isozymes III and IV, respectively. Biliverdin reductase A (BLVRA), also designated biliverdin-IX  $\alpha$ -reductase, belongs to the GFO/iIDH/MocA family and the biliverdin reductase subfamily. The gene that encodes this cytoplasmic protein maps to chromosome 7p13. BLVRA reduces biliverdin IX  $\alpha$  (the  $\gamma$ -methene bridge of the open tetra-pyrrole) to bilirubin with the concomitant oxidation of an NADH or NADPH cofactor (bilirubin + NADP<sup>+</sup> = biliverdin + NADPH). BLVRA is expressed primarily in liver.

### REFERENCES

1. Bonkovsky, H.L., et al. 1990. Purification and characterization of heme oxygenase from chick liver. Comparison of the avian and mammalian enzymes. *Eur. J. Biochem.* 189: 155-166.
2. Frydman, J., et al. 1990. Identification of the amino acid residues essential for the activity and the interconversion of the molecular forms of biliverdin reductase. *Biochim. Biophys. Acta* 1040: 119-129.
3. Maines, M.D. and Trakshel, G.M. 1993. Purification and characterization of human biliverdin reductase. *Arch. Biochem. Biophys.* 300: 320-326.
4. Yamaguchi, T., et al. 1994. Biliverdin-IX  $\alpha$ -reductase and biliverdin-IX  $\beta$ -reductase from human liver. Purification and characterization. *J. Biol. Chem.* 269: 24343-24348.
5. SWISS-PROT/TrEMBL (P53004). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

### CHROMOSOMAL LOCATION

Genetic locus: BLVRA (human) mapping to 7p13.

### SOURCE

BLVRA (2E4) is a mouse monoclonal antibody raised against recombinant BLVRA of human origin.

### PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

BLVRA (2E4) is recommended for detection of BLVRA of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

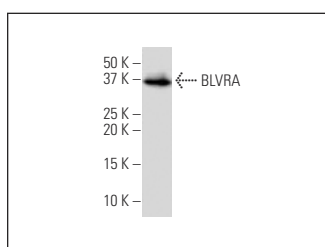
Suitable for use as control antibody for BLVRA siRNA (h): sc-44650, BLVRA shRNA Plasmid (h): sc-44650-SH and BLVRA shRNA (h) Lentiviral Particles: sc-44650-V.

Molecular Weight of BLVRA: 37 kDa.

### RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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).

### DATA



BLVRA (2E4): sc-100511. Western blot analysis of BLVRA expression in 293 whole cell lysate.

### SELECT PRODUCT CITATIONS

1. Sutinen, E.M., et al. 2014. Interleukin-18 alters protein expressions of neurodegenerative diseases-linked proteins in human SH-SY5Y neuron-like cells. *Front. Cell. Neurosci.* 8: 1-16.
2. Somporn, N., et al. 2019. Cellular adaptation mediated through Nrf2-induced glutamate cysteine ligase up-regulation against oxidative stress caused by iron overload in  $\beta$ -thalassemia/HbE patients. *Free Radic. Res.* 53: 791-799.

### 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.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.