

BPGM (C-4): sc-373819

BACKGROUND

BPGM (2,3-bisphosphoglycerate mutase) is a 259 amino acid protein that belongs to the phosphoglycerate mutase family and exists as a homodimer that plays a crucial role in the regulation of hemoglobin oxygen. Specifically, BPGM catalyzes the conversion of 3-phospho-D-glyceroyl phosphate to 2,3-bisphospho-D-glycerate (2,3-BPG), a reaction that is essential for controlling the concentration of 2,3-BPG within the cell. The gene encoding BPGM maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

- Haggarty, N.W., et al. 1983. The complete amino acid sequence of human erythrocyte diphosphoglycerate mutase. *EMBO J.* 2: 1213-1220.
- Cohen-Solal, M., et al. 1987. Molecular cloning of the human 2,3-bisphosphoglycerate mutase cDNA and revised amino acid sequence. *Biochim. Acta* 46: S126-S130.
- Craescu, C.T., et al. 1992. Structural modeling of the human erythrocyte bisphosphoglycerate mutase. *Biochimie* 74: 519-526.
- Stafforini, D.M., et al. 1993. The platelet-activating factor acetylhydrolase from human erythrocytes. Purification and properties. *J. Biol. Chem.* 268: 3857-3865.

CHROMOSOMAL LOCATION

Genetic locus: BPGM (human) mapping to 7q33; Bpgm (mouse) mapping to 6 B1.

SOURCE

BPGM (C-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 153-185 within an internal region of BPGM 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.

BPGM (C-4) is available conjugated to agarose (sc-373819 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373819 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373819 PE), fluorescein (sc-373819 FITC), Alexa Fluor[®] 488 (sc-373819 AF488), Alexa Fluor[®] 546 (sc-373819 AF546), Alexa Fluor[®] 594 (sc-373819 AF594) or Alexa Fluor[®] 647 (sc-373819 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-373819 AF680) or Alexa Fluor[®] 790 (sc-373819 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

BPGM (C-4) is recommended for detection of BPGM 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).

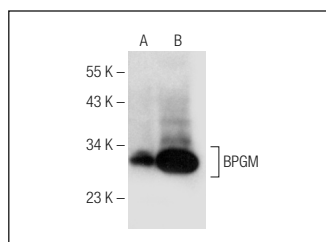
BPGM (C-4) is also recommended for detection of BPGM in additional species, including bovine.

Suitable for use as control antibody for BPGM siRNA (h): sc-72656, BPGM siRNA (m): sc-72657, BPGM shRNA Plasmid (h): sc-72656-SH, BPGM shRNA Plasmid (m): sc-72657-SH, BPGM shRNA (h) Lentiviral Particles: sc-72656-V and BPGM shRNA (m) Lentiviral Particles: sc-72657-V.

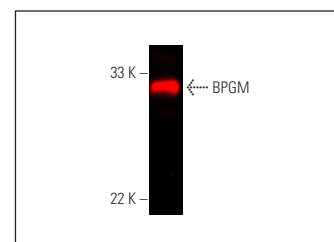
Molecular Weight of BPGM: 30 kDa.

Positive Controls: human erythrocyte whole cell lysate or human placenta extract: sc-363772.

DATA



BPGM (C-4): sc-373819. Western blot analysis of BPGM expression in human erythrocyte whole cell lysate (A) and human placenta tissue extract (B).



BPGM (C-4): sc-373819. Near-Infrared western blot analysis of BPGM expression in human placenta tissue extract. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

SELECT PRODUCT CITATIONS

- Wang, G., et al. 2021. Hydrogen sulfide is a regulator of hemoglobin oxygen-carrying capacity via controlling 2,3-BPG production in erythrocytes. *Oxid. Med. Cell. Longev.* 2021: 8877691.
- Lim, M., et al. 2021. Dysregulation of bisphosphoglycerate mutase during *in vitro* maturation of oocytes. *J. Assist. Reprod. Genet.* 38: 1363-1372.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.