**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**


**CHROMOSOMAL LOCALIZATION**

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

**SOURCE**

BPGM (F-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 89-123 within an internal region of BPGM of human origin.

**PRODUCT**

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376578 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

**APPLICATIONS**

BPGM (F-2) 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 (F-2) is also recommended for detection of BPGM in additional species, including equine, canine and bovine.

Molecular Weight of BPGM: 30 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, NIH/3T3 whole cell lysate: sc-2210 or A-431 whole cell lysate: sc-2201.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG βP-HRP: sc-516102 or m-IgG βP-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 Luminal Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG βP-FITC: sc-516140 or m-IgG βP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

**DATA**

![Western blot analysis of BPGM expression in K-562 (A), A-431 (B), NIH/3T3 (C) and C6 (D) whole cell lysates.](image)

**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.