PGD (G-2): sc-398977

BACKGROUND

PGD (phosphogluconate dehydrogenase), also referred to as 6PGD, is a 483 amino acid enzyme that is involved in the pentose phosphate shunt. Pentose is required for nucleic acid biosynthesis and the pentose phosphate cycle is a major source of NADPH. As the second dehydrogenase in the pentose phosphate cycle, PGD catalyzes the oxidative decarboxylation of PGD to ribulose 5-phosphate, following the release of CO₂ and the reduction of NADP. PGD deficiency increases the level of erythrocyte pyruvate kinase (PK) activity and reduces glutathione synthetase (GSH), resulting in hemolysis. Defects in PGD are generally asymptomatic and are inherited in an autosomal dominant fashion. Catalytic active regions of PGD, such as those forming the substrate and coenzyme binding sites, are highly conserved in most species.

CHROMOSOMAL LOCATION

Genetic locus: PGD (human) mapping to 1p36.22; Pgd (mouse) mapping to 4E2.

SOURCE

PGD (G-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 417-443 near the C-terminus of PGD 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. PGD (G-2) is available conjugated to agarose (sc-398977 AC), 500 µg/sodium azide and 0.1% gelatin.

APPLICATIONS

PGD (G-2) is recommended for detection of PGD 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).

RECOMMENDED SUPPORT REAGENTS

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

SELECT PRODUCT CITATIONS


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.

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