CREATIVE BIOMART®
Assay Kit

6-Phosphogluconate Dehydrogenase Activity Colorimetric Assay Kit

Product Information

Cat

Kit-2208

Cat.No. Kit-2208

Product Overview

6-Phosphogluconate dehydrogenase (6-PGD, EC 1.1.1.44) is an enzyme in the pentose phosphate pathway that catalyzes the oxidative decarboxylation of 6-phosphogluconate to ribulose-5-phosphate with simultaneous reduction of NADP+ to NADPH. Ribulose-5-phosphate is used for production of nucleotides and nucleic acids and can also be reversibly converted to glyceraldehyde-3-phosphate and fructose-6-phosphate which can be used in the glycolysis pathway. It also has a vital role in production of NADPH, which is utilized as a reducing agent in numerous biosynthetic pathways and is important in prevention of oxidative damage. In humans, 6-PGD deficiency is an autosomal hereditary disorder that can result in depletion of NADPH in red blood cells. As NADPH is required for regeneration of the cellular antioxidant glutathione in red blood cells, 6-PGD deficiency increases the risk of hemolytic anemia in situations of oxidative stress. On the other hand, inhibition of 6-PGD has been linked to anti-cancer activity by decreasing RNA biosynthesis and increasing the buildup of reactive oxygen species in tumor cells. 6-PGD assay kit provides a quick, sensitive and easy way for measuring 6-PGD activity in various biological samples. In this assay, 6-PGD converts 6-phosphogluconate into an intermediate, generating NADPH, which subsequently reduces a colorless probe into a strongly colored product detectable by absorbance at 460 nm. The assay is high-throughput adaptable and can detect less than 0.05 mU of 6-PGD activity.

Applications

Measurement of 6-PGD activity in purified/crude enzyme preparations and biological samples.

Storage

-20°C

Shipping

Tel: 1-631-559-9269 1-516-512-3133
Email:info@creative-biomart.org
Fax:1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

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6-Phosphogluconate Dehydrogenase Activity Colorimetric Assay Kit

Gel Pack

Size

100 assays

Kit Components

6-PGD Assay Buffer; 6-PGD Substrate; 6-PGD Developer; NADH Standard; 6-PGD Positive Control

Target Species

Mammalian

Detection method Colorimetric (OD 460 nm)

Features & Benefits

Simple, rapid & convenient assay to measure 6-PGD Activity in biological samples;
Includes Positive Control

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