6-Phosphogluconic Acid Colorimetric Assay Kit

Cat. No. Kit-2122 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	6-Phosphogluconate assay kit can be used with a variety of sample types. In this assay, 6- Phosphogluconate is converted to Ribulose-5-Phosphate by 6-Phosphogluconate Dehydrogenase in the presence of NAD, to form NADH, which reduces a probe and generates strong absorbance at 450 nm. This 6-Phosphogluconate Assay Kit is simple, sensitive & easy to use and can detect 6-Phosphogluconate levels lower than 20 μM.
Size	100 assays
Description	6-Phosphogluconate (6-PGA) is an intermediate of both Pentose Phosphate Pathway (PPP) and Entner-Doudoroff Pathway. It is produced by the hydrolysis of 6-Phosphogluconolactone, catalyzed by 6-Phosphogluconolactonase. In the Pentose Phosphate Pathway, 6-PGA is utilized by 6-Phosphogluconate Dehydrogenase to generate ribulose-5-Phosphate and NADPH. These products are important for nucleic acid synthesis and various anabolic processes. In Prokaryotes, 6-Phosphogluconate is the main metabolite of EntnerDoudoroff pathway, and is converted into Pyruvate using both 6-Phosphogluconate Dehydratase and 2-Keto-3-Deoxyphosphogluconate aldolase. Recent studies show that long-term exposure to glucose perturbs the Pentose Phosphate Pathway, causes significant accumulation of 6-Phosphogluconate and impairs beta cell function. Measurement of 6-Phosphogluconate levels therefore is important for evaluating Pentose Phosphate Pathway, developing therapeutic approaches for diabetes research, and analyzing the Entner-Doudoroff Pathway in bacteria.

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Applications	Measurement of 6-Phosphogluconic Acid in various tissues/cells. Analysis of Pentose Phosphate Pathway and Entner-Doudoroff Pathway.
Target Species	Mammalian
Storage	Store the kit at –20°C, protected from light. Warm all Buffers to room temperature before use. Briefly centrifuge all small vials prior to opening.
Kit Components	6-PGA Assay Buffer: 25 ml6-PGA Enzyme: 1 vial6-PGA Substrate Mix: 1 vial6-PGA Standard: 1 vial
Detection method	Absorbance (OD= 450 nm)
Compatible Sample Types	• Tissues: e.g. Liver, Kidney, Heart• Adherent or Suspension Cells: e.g. HeLa, Jurkat cells
Features & Benefits	• Simple, fast and convenient assay• Can measure 6-PGA levels as low as 20 μM

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