

Product datasheet

6 Phosphogluconate Assay Kit (Colorimetric) ab211071

[2 Images](#)

Overview

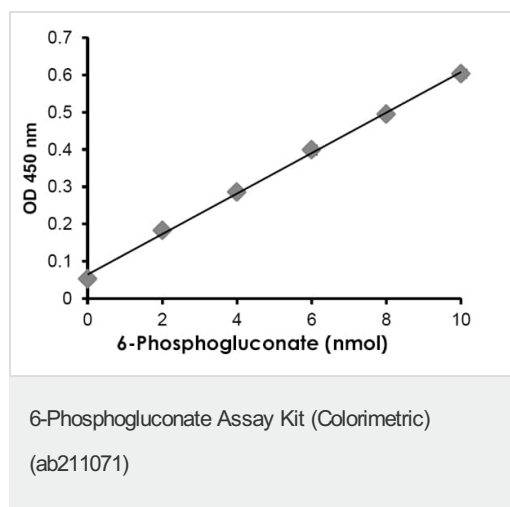
Product name	6 Phosphogluconate Assay Kit (Colorimetric)
Detection method	Colorimetric
Sample type	Cell Lysate, Tissue Lysate
Assay type	Quantitative
Sensitivity	20 μ M
Species reactivity	Reacts with: Mammals, Other species
Product overview	6-Phosphogluconate Assay Kit (Colorimetric) (ab211071) provides a convenient method to detect 6-phosphogluconate (6-PGA) in cell and tissue lysates. In this assay, 6-phosphogluconate is converted to ribulose-5-phosphate by 6-phosphogluconate dehydrogenase in the presence of NAD^+ . NADH formed in the reaction reduces the probe present in the reaction mix, generating a strong absorbance at OD 450 nm. This absorbance is proportional to the amount of 6-PGA present in the samples. This assay kit is fast, sensitive and high-through adaptable. It can measure less than 20 μ M of 6-phosphogluconate present in the sample.
Notes	<p>6-phosphogluconate (6-phosphogluconic acid, 6-PGA) is an intermediate of both Pentose Phosphate Pathway (PPP) and Entner-Doudoroff Pathway. In the Pentose Phosphate Pathway, 6-PGA is converted by 6-phosphogluconate dehydrogenase into ribulose-5-phosphate, a precursor for the synthesis of nucleic acids. In prokaryotes, 6-PGA is the main metabolite of the Entner-Doudoroff pathway, and is converted into pyruvate by both 6-phosphogluconate dehydratase and 2-keto-3-Deoxyphosphogluconate aldolase.</p> <p>Recent studies show that long-term exposure to glucose perturbs the PPP, causing significant accumulation of 6-PGA and impairment of beta cell function in the pancreas. Measurement of 6-PGA levels is important when evaluating therapies for diabetes research.</p> <p>In pathological bacteria, measurement of 6-PGA levels and functionality of Entner-Doudoroff pathway can be used for clinical and diagnostic purposes.</p>
Platform	Microplate reader

Properties

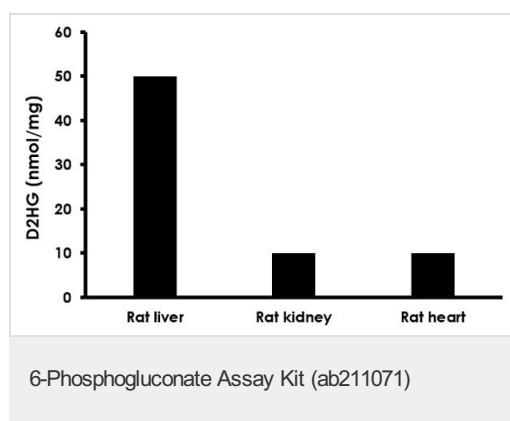
Storage instructions Store at -20°C . Please refer to protocols.

Components	100 tests
PGA Assay Buffer	1 x 25ml
6-PGA Enzyme (15 mg)	1 vial
6-PGA Standard (10 mg)	1 vial
6-PGA Substrate Mix (25 mg)	1 vial

Images



Typical 6-phosphogluconate (6-PGA) standard calibration curve.



Measurement of 6-PGA in lysates from rat liver (160 µg), rat kidney (120 µg) and rat heart (60 µg).

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