

G-6-PDH

Liquid Stable High Performance Assay



High Stability. Reliable.
Freedom from Interferences.



CHOOSING QUALITY.

Clinical Relevance

Glucose-6-phosphate dehydrogenase (G-6-PDH) is an enzyme in the pentose phosphate pathway. G-6-PDH converts glucose-6-phosphate into 6-phosphoglucono-dlactone and is the rate-limiting enzyme of this metabolic pathway that supplies reducing energy to cells by maintaining the level of the coenzyme NADPH. The NADPH in turn maintains the supply of reduced glutathione in the cells that is used to mop up free radicals that cause hemolysis.

6 - phosphogluconate (6-PG) and reducing NADP to NADPH. The increase of absorbance of NADPH, for reduction of NADP, is proportional to the activity of the G6PDH in the sample.

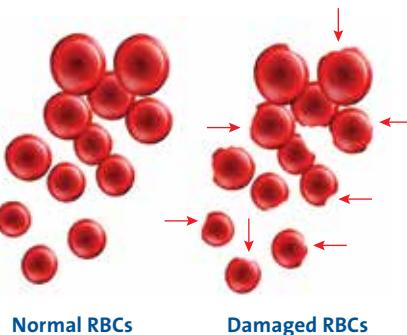
Reference Range

Normal values G-6-PDH

RBC	7.0-20.5 U/g
Hgb	11-16 g/dL

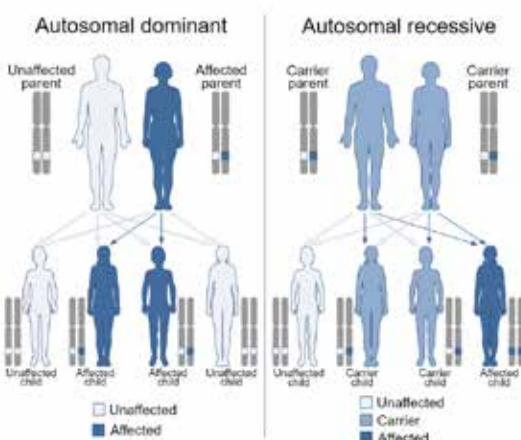
Values for the newborns may range somewhat higher. Each laboratory should check if reference ranges are transferable to its own patient population and determine own reference ranges, if necessary.

G-6-PDH Deficiency



Prenatal Diagnosis

The condition is transmitted by mutations in the G-6-PDH gene located on the X chromosome and follows an X-linked recessive inheritance (sex-linked) pattern:



Principle

The glucose-6-phosphate dehydrogenase (G-6-PDH) catalyzes the first step in the pentose phosphate shunt, oxidizing glucose - 6 - phosphate (G-6 - P) to

Linearity

The test is linear up to 3000 U/L. For concentration of G-6-PDH higher than 3000 U/L, use half sample volume and multiply the result x 2.

Sensitivity/Limit of Detection

The sensitivity limit, which is the minimum concentration that can be distinguished by zero is 5 U/L.

Precision

Within-run precision: determined on 20 replications of 2 samples.

Level (U/L)	Within Run CV%
402.9	1.65
1414	2.13

Method Comparison

A group of 20 whole blood samples has been tested using this procedure and using a similar reagent available on the market. The comparison yielded following results:

$$y = 1.0046x - 19$$

Correlation coefficient: $r = 0.9997$

Order Information

Product	G-6-PDH
Use	System kit*
Cat.No.	116219934841
Content	R1: 2 x 18 mL; R2: 2 x 1.5 mL; Lyse 2 x 30 mL