



G6PD WORKSHEET 2010

The samples have been tested and found to be homogeneous and stable for the purpose of these exercises. The samples are haemolysates of human red cells in lyophilised form, containing stabilisers and preservatives. Reconstitute each vial with distilled water – see over for reconstitution and sample processing instructions.

APRIL	Cycle 10 Run 1	GD10-04a GD10-04b	G6PD screen, G6PD assay G6PD screen, G6PD assay
OCTOBER	Cycle 10 Run 2	GD10-10a GD10-10b	G6PD screen, G6PD assay G6PD screen, G6PD assay

RECONSTITUTION INFORMATION

SAMPLE	Reconstitution volume Distilled water	Test	Interpretation	Units
GD10 -**a / b	0.5 ml	G6PD Screen	Normal / Equivocal / Deficient	
		G6PD Assay	Normal / Deficient	U/g Hb

SAMPLE HANDLING AND PROCESSING INFORMATION

- Check expiry of reagents (READY FOR USE and RECONSTITUTED) prior to testing.
- Open the vial very carefully, avoiding any loss of the lyophilized material.
- Add exactly 0.5ml of distilled water.
- Close the vial carefully and gently swirl to dissolve.
- Allow the controls to stand for 15 minutes.
- Invert gently and swirl to assure homogeneity, avoiding the formation of foam. Do not shake.
- Let the controls stand at least 10 minutes. Swirl gently just prior to each use. Do not shake.
- Whole Blood Haemoglobin values for individual samples will be supplied with the dispatch insert.
- If your assay method uses the *Haemolysate* Haemoglobin in the calculation of G6PD activity eg Manual Beutler assay method, you must determine the haemoglobin of the haemolysate in the sample vial after reconstitution, as you would a patient sample.

G6PD Screens:

- Perform a G6PD screening test according to your laboratory's protocol. The samples should be treated in the same manner as a test blood sample.

G6PD Assays:

- In order to standardise resulting and to provide meaningful statistical analysis, **results must be expressed as G6PD activity at 37°C.** (See instructions below).

TRINITY BIOTECH (345-UV) METHOD:

- If you perform AND/OR report your result at 37°C, DO NOT APPLY A CONVERSION FACTOR.

Eg, with reference to the package insert,

$$\text{G6PD (U/g Hb)} = \Delta A \text{ per min} \times \frac{100 \times 3.01}{0.01 \times 6.22 \times \text{Hb (g/dL)}}$$

If you perform AND/OR report your result at 30°C, divide the results achieved at 30°C (U/g Hb) by 0.66 to convert your results to G6PD activity at 37°C:

Eg, if results reported at 30°C are 12.2 U/g Hb,

$$\text{the G6PD activity at 37°C would be } \frac{12.2}{0.66} = 18.5 \text{ U/g Hb}$$

OTHER ASSAY METHODS:

- Express your results as G6PD Activity at 37°C. If you are using a different kit method and you perform and/or report your results as activity at 30°C, you must contact the manufacturer of your kit to provide instructions to convert your results to G6PD activity at 37°C.