Dry Powder Reagents

G6PDH Deficiency Screen (Glucose-6-Phosphate Dehydrogenase)

qualitative, visual
2 Reagents

Diagnostic reagent for qualitative in vitro determination of Glucose-6-phosphate dehydrogenase deficiency in human red blood cells

REAGENT COMPOSITION

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>CONCENTRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reagent 1:</td>
<td></td>
</tr>
<tr>
<td>NADP</td>
<td>0.5 mM</td>
</tr>
<tr>
<td>Glucose-6-phosphate</td>
<td>4.55 mM</td>
</tr>
<tr>
<td>Dichlorophenol indophenol</td>
<td>0.55 mM</td>
</tr>
<tr>
<td>Phenazine methosulfate</td>
<td>0.2 g/L</td>
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<tr>
<td>Buffer:</td>
<td></td>
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<tr>
<td>Buffer to give pH of 8.5 ± 0.1 when reconstituted with Reagent 1</td>
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<tr>
<td>Sodium azide</td>
<td>0.095 %</td>
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</tbody>
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TEST PARAMETERS

Method: Visual, colorimetric
Wavelength: - -
Temperature: 37°C
Sample: Whole blood with EDTA, heparin or acid-citrate-dextrose (ACD)
Linearity: - -
Sensitivity: - -

INTERFERING SUBSTANCES

no interference up to:
copper 100 µmol/L
sulphate ions 0.005 mol/L

Certain drugs and other substances are known to influence circulation levels of G6PDH. 11
Reticulocytes have higher G6PDH levels than mature red cells. It is recommended that assays not be performed after a severe haemolytic crisis, since G6PDH levels may appear falsely elevated. Under those conditions, detection of deficiency may require family studies. Testing may be performed after the level of mature red cells has returned to normal.
Under normal circumstances, activity contributed by leukocytes, platelets and serum is relatively small. However, in cases of extreme anemia, grossly elevated white counts or, very low levels of red cell G6PDH activity, the contribution to the total made under these conditions may be significant.

MANUAL TEST PROCEDURE

Pipette into a test tube:
Reagent 500 µl
Hemolysate 1000 µl
Gently shake tube to mix.
Place the tubes into a 37°C heating block or water bath.
Observe the tubes at 15 minute intervals for up to 1 hour

SAMPLE STABILITY AND STORAGE

Whole blood: at 2 – 8 °C 7 days
Hemolysate: unstable
Do not freeze! Discard contaminated specimens.

RESULTS

Normal blood (normal levels of G6PDH) will typically reach the red/orange endpoint within 15-60 minutes.
REFERENCE RANGE
Samples were collected from 152 apparently healthy adults and assayed according to this method. Every sample reached the red/orange endpoint within 60 minutes. This assay is designed to detect samples with a significantly deficient level of G6PDH from those with an essentially normal level of G6PDH. It is strongly recommended that any samples requiring longer than 60 minutes to reach the red/orange endpoint be assayed using a quantitative G6PDH method to verify the finding of deficiency.

QUALITY CONTROL
Reliability of test results should be monitored by use of control materials with known levels of G6PDH within each run. We recommend:

Y04560 6 x 0.5 ml G6PDH Control Set

WASTE MANAGEMENT
Please refer to local legal requirements

REFERENCES