INTENDED USE
For the quantitative in vitro determination of Aldolase in serum or plasma. This product is suitable for Manual use.

Cat. No.  
AD 189 R1. Buffer/Substrate 5 x 20 ml  
5 x 20 ml R2. NADH 2 x 1 ml  
40 tests R3. GDH/TIM/LDH 1 vial

PRINCIPLE
Aldolase converts fructose-1,6-diphosphate (F-1,6-DP) to glyceraldehyde-3-phosphate (GAP) and dihydroxyacetone phosphate (DAP). The addition of triosephosphate isomerase (TIM), glyceralphosphate dehydrogenase (GDH) and NADH converts the dihydroxyacetone phosphate to glycerol-1-phosphate. The rate of the aldolase reaction is measured by the decrease in absorbance at 340 nm as a consequence of the conversion of NADH to NAD⁺.

SAMPLE
Serum, heparinized plasma or EDTA plasma.

REAGENT COMPOSITION

<table>
<thead>
<tr>
<th>Contents</th>
<th>Concentration in the Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1. Buffer/Substrate</td>
<td></td>
</tr>
<tr>
<td>Collidine buffer</td>
<td>51 mmol/l, pH 7.4</td>
</tr>
<tr>
<td>Mono-iodoacetate</td>
<td>0.27 mmol/l</td>
</tr>
<tr>
<td>F-1,6-DP</td>
<td>2.7 mmol/l</td>
</tr>
<tr>
<td>R2. NADH</td>
<td>0.23 mmol/l</td>
</tr>
<tr>
<td>R3. GDH/TIM/LDH</td>
<td></td>
</tr>
<tr>
<td>GDH</td>
<td>≥ 326 mU/ml</td>
</tr>
<tr>
<td>TIM</td>
<td>≥ 4.35 U/ml</td>
</tr>
<tr>
<td>LDH</td>
<td>≥ 616 mU/ml</td>
</tr>
<tr>
<td>Ammonium Sulphate</td>
<td>&gt; 35%</td>
</tr>
</tbody>
</table>

SAFETY PRECAUTIONS AND WARNINGS
For in vitro diagnostic use only. Do not pipette by mouth. Exercise the normal precautions required for handling laboratory reagents.

Health and Safety Data Sheets are available on request.

The reagents must be used only for the purpose intended by suitably qualified laboratory personnel, under appropriate laboratory conditions.

STABILITY AND PREPARATION OF REAGENTS
R1. Buffer/Substrate
Reconstitute one vial of Buffer/Substrate R1 with 20 ml of redistilled water. Stable for two weeks at +2 to +8°C.

R2. NADH
Reconstitute one vial of NADH R2 with 1 ml of redistilled water. Stable for 4 weeks at +2 to +8°C.

R3. GDH/TIM/LDH
Contents ready for use. Stable up to the expiry date specified when stored at +2 to +8°C.

MATERIALS PROVIDED
Buffer/Substrate
NADH
GDH/TIM/LDH

MATERIALS REQUIRED BUT NOT PROVIDED
Randox Aldolase Control Level 2 (Cat. No. AD 5001) and Level 3 (Cat. No. AD 5002)
0.9% NaCl Solution.

PROCEDURE
Wavelength: 340 nm (Hg 365 nm, or Hg 334 nm)
Cuvette: 1 cm light path
Temperature: 37°C
Measurement: against sample blank

Pipette into test tubes:

<table>
<thead>
<tr>
<th>Sample blank</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>0.2 ml</td>
</tr>
<tr>
<td>Buffer/Substrate (R1)</td>
<td>-</td>
</tr>
<tr>
<td>0.9% NaCl Solution</td>
<td>2.50 ml</td>
</tr>
<tr>
<td>NADH (R2)</td>
<td>-</td>
</tr>
<tr>
<td>GDH/TIM/LDH (R3)</td>
<td>-</td>
</tr>
</tbody>
</table>

Mix, incubate for 5 min at 37°C.
Read absorbance A₁ against sample blank.
Allow to stand at 37°C for exactly 20 min after first reading and then measure absorbance A₂ against blank.

(A₁ - A₂ = ΔA)

* If A₁ < 0.95, dilute 1+1 with 0.9% NaCl and reassay. Multiply the result by 2.

CALCULATION
To calculate Aldolase activity use the following formulae:

U/l = 54.8 x ΔA 340 nm
U/l = 55.8 x ΔA Hg 334 nm
U/l = 101.5 x ΔA Hg 365 nm

QUALITY CONTROL
Randox Aldolase Control Level 2 and Level 3 are recommended for daily quality control. Two levels of controls should be assayed at least once a day. Values obtained should fall within a specified range. If these values fall outside the range and repetition excludes error, the following steps should be taken:
1. Check instrument settings and light source.
2. Check cleanliness of all equipment in use.
3. Check water, contaminants i.e. bacterial growth may contribute to inaccurate results.
4. Check reaction temperature.
5. Check expiry date of kit and contents.
6. Contact Randox Laboratories Customer Technical Support, Northern Ireland (028) 94422413.

INTERFERENCE
Haemolysis interferes with the test.
REFERENCE VALUES

Serum: up to 7.6 U/l (37°C)

It is recommended that each laboratory establish its own reference range to reflect the age, sex, diet and geographical location of the population.

LINEARITY
If the absorbance change $\Delta A$ exceeds 0.500 (340 nm/Hg 334 nm) or 0.250 (Hg 365 nm), dilute 0.1 ml of sample with 0.9 ml of NaCl solution and repeat assay. Multiply result by 10.

REFERENCE