### TRIGLYCERIDES FL

| TRIGLYCERIDES FL | 2 x 50 ml | 4 x 100 ml | 4 x 250 ml |

### INTENDED USE
Reagent for quantitative in vitro determination of triglycerides in biological fluids.

### SUMMARY OF TEST
In human nutrition, triglycerides are the most prevalent glycerol esters encountered. They constitute 95% of tissue storage fat and are the predominant form of glycerol ester found in plasma. The fatty acid residues found in mono-, di-, or triglycerides vary considerably and usually include combinations of the long-chain fatty acids. Triglycerides undergo digestion in the duodenum and proximal ileum; through the action of lipases and bile acids, they are hydrolyzed into glycerol and fatty acids.

### PRINCIPLE OF THE METHOD
Triglycerides are hydrolyzed by lipoproteinlipase to produce glycerol and free fatty acids. The glycerol participates in a series of coupled enzymatic reactions, in which glycerol kinase / glycerol phosphate oxidase are involved and H$_2$O$_2$ is generated. H$_2$O$_2$ reacts with TOPS and 4-aminonaphtalene-1-sulphonate (ANS) dye. The intensity of color formed is proportional to the triglycerides concentration and can be measured photometrically at 546 nm.

### MATERIALS REQUIRED BUT NOT SUPPLIED
- Pipettes.
- Glass or high quality polystyrene cuvettes.
- Saline.
- Current laboratory instrumentation.
- Spectrophotometer.

### RESULTS CALCULATION

<table>
<thead>
<tr>
<th>RESULTS CALCULATION</th>
<th>2 x 50 ml</th>
<th>4 x 100 ml</th>
<th>4 x 250 ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>dilution:</td>
<td>blank</td>
<td>standard</td>
<td>sample</td>
</tr>
<tr>
<td>reagent:</td>
<td>1 ml</td>
<td>1 ml</td>
<td>1 ml</td>
</tr>
<tr>
<td>water:</td>
<td>10 µl</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>standard:</td>
<td>-</td>
<td>10 µl</td>
<td>-</td>
</tr>
<tr>
<td>sample:</td>
<td>-</td>
<td>-</td>
<td>10 µl</td>
</tr>
</tbody>
</table>

Mix, incubate at 37°C for 5 minutes. Read absorbances of standard (As) and samples (Ax) against reagent blank.

### EXPECTED VALUES

<table>
<thead>
<tr>
<th>EXPERIMENTAL VALUES</th>
<th>desirable:</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRIG R1 F100</td>
<td>&lt; 200 mg/dl</td>
</tr>
<tr>
<td>(2.26 mmol/l)</td>
<td></td>
</tr>
</tbody>
</table>

Each laboratory should establish appropriate reference intervals related to its population.

### QUALITY CONTROL AND CALIBRATION
It is suggested to perform an internal quality control. For this purpose the following human based control sera are available:
- QUANTINORM CHENA
  - with normal or close to normal control values
- QUANTIPATH CHENA
  - with pathological control values
  - If required, a multiparametric, human based calibrator is available: AUTOCAL H

Please contact Customer Care for further information.

### TEST PERFORMANCE

#### Linearity
The method is linear up to 1000 mg/dl. If the value is exceeded, it is suggested to dilute sample 1+9 with saline and to repeat the test, multiplying the result by 10.

#### Sensitivity/limit of detection (LOD)
The limit of detection is 0.69 mg/dl.

#### Interferences
- no interference was observed by the presence of:
  - hemoglobin ≤ 150 mg/dl
  - bilirubin ≤ 18 mg/dl

#### Precision

<table>
<thead>
<tr>
<th>Precision</th>
<th>intra-assay (n=10)</th>
<th>SD (mg/dl)</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>sample 1</td>
<td>109.61</td>
<td>1.02</td>
<td>0.93</td>
</tr>
<tr>
<td>sample 2</td>
<td>214.62</td>
<td>1.10</td>
<td>0.51</td>
</tr>
<tr>
<td>inter-assay (n=20)</td>
<td>108.64</td>
<td>3.31</td>
<td>3.05</td>
</tr>
<tr>
<td>sample 1</td>
<td>210.25</td>
<td>6.54</td>
<td>3.11</td>
</tr>
</tbody>
</table>

#### Methods comparison
A comparison between CHENA TRIGLYCERIDES FL and a commercially available product gave the following results:

- Triglycerides CHENA x = y
- Triglycerides competitor = y
- n = 96

\[ y = 0.9993 \times 0.614 \text{ mg/dl} \quad r^2 = 0.995 \]

### WASTE DISPOSAL
This product is made to be used in professional laboratories. P501: Dispose of contents according to national/international regulations.

### REFERENCES
- Trinder P.: J. Clin. Path. 22, 158 (1969);
- Fossati P. and Prencipe L.: Clin. Chem. 28/10, 2077-2080 (1982);
- Spain M. A. and Wu A. H. B.: Clin. Chem. 32/3, 518-521 (1986);
- Shepherd M. D. S. and Whiting M. J.: Clin. Chem. 36/2, 385-390 (1990);
- Klotsch S. G. and McNamara J. R.: Clin. Chem. 36/9, 1605-1613 (1990);

### SYMBOLS
- IVD: in vitro diagnostic medical device
- LOT: batch code
- REF: catalogue number
- °: temperature limit
- use by date
- caution
- consult instructions for use

### MANUFACTURER
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