CREATIVE BIOMART®
Assay Kit

Total Oxidant Status Assay Kit

Product Information

Common Name

TOS

Cat.No. Kit-2173

Product Overview

Oxidants present in the sample oxidize the ferrous ion– chelator complex to ferric ion. The oxidation reaction is prolonged by enhancer molecules, which are abundantly present in the reaction medium. The ferric ion makes a colored complex with chromogen in an acidic medium. The color intensity, which can be measured spectrophotometrically, is related to the total amount of oxidant molecules present in the sample. The assay is calibrated with hydrogen peroxide and the results are expressed in terms of micromolar hydrogen peroxide equivalent per liter (µmol H2O2 Equiv./L).

Storage

The kit is shipped on wet ice and storage at 2-8 °C is recommended. Stable up to expiry date when stored capped and at 2-8 °C even after start using.

Kit Components

Reagent 1, 1 x 30 ml: Buffer Solution H2SO4, 25mM pH1.75
Reagent 2, 1 x 8 ml:
Substrate Solution H2SO4, 25mM pH1.75
Ferrous ion, 5 mM
O-dianisidine, 10nM
Standard, 1 x 4 ml: H202, 10 µmol/L
Quality Control - Level 1, 1 x 4 ml: H202, 5 µmol/L
Quality Control - Level 2, 1 x 4 ml: H202, 20 µmol/L

Technical Notes

Normal Range
Human Serum: 4.00 – 6.00 µmol/L (400 – 600 umol/hL)
Each laboratory is recommended to establish their own reference values.

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Precision:
Inter-assay coefficent of variation 3.2%
Intra-assay coefficent of variation 3.9%
Assay Range:
Samples containing 0.2 – 80 µmol H202 Equiv./L can be assayed without further dilution or concentration.
Interferences:
EDTA interfere with the results.

Compatible Sample Types

Blood serum, heparinised plasma, semen plasma, saliva, urine, cell lysates and tissue homogenates can be used as sample.
Serum samples are stable up to 1 week stored at 4˚C, 6 months at -20˚C and 1 year at -80˚C.

Assay Protocol

Wavelength 530nm
Pipette into cuvette as below order
Sample OR Standard OR H20: 45 µl
Reagent 1: 300 µl
Mix well
Read absorbance (A1) after 30 seconds
Reagent 2: 15 µl
Mix well
Read absorbance (A2) after 5 minutes at 37˚C
OR
Read absornabce (A2) after 10 minutes at RT

Analysis

A2 – A1 = ΔAbs of standard or sample
Results = ΔAbs Sample/ΔAbs Standard x 10*
*Concentration of standard

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