# IRON

**Colorimetric Method** **50 Tests**

## PRINCIPLE :

**The serum is deproteinized by trichloroacetic acid and the iron is dissociated from the protein transferrin by hydrochloric acid then reduced to ferrous by thioglycolic acid . The colored complex which the iron forms with bathophenanthroline is measured colorimetrically**

## SAMPLE :

**Serum . Samples free of hemolysis, can be stored for 24 hours at +2 to +8°C**

## NORMAL VALUES :

**Adults : 7.3 – 23.6 µmol/L (41-132 µg/dl)**

## REAGENTS :

| | | | |
|---|---|---|---|
| **1.** | **Standard iron** | 35.8<br>(200 | µmol/L<br>µg/dL) |
| **2.** | **Acids mixture**<br>Trichloroacetic acid<br>Hydrochloric acid<br>Thioglycolic acid | <br>0.6<br>2.1<br>0.4 | <br>mol/L<br>mol/L<br>mol/L |
| **3.** | **Chromogen**<br>Bathophenanthroline<br>Sodium acetate | <br>0.47<br>3.6 | <br>mmol/L<br>mol/L |

## STABILITY :

**The reagents are stable up to the expiry date specified when stored at +15 to +25 °C .**

## PROCEDURE :

| **Deproteinization :** | |
|---|---|
| **Serum** | **0.5 ml** |
| **Reagent 2** | **0.5 ml** |
| **Mix, let stand for 10 min. then, centrifuge for 10 min. at 3000 rpm. Use the supernatant for the assay.** | |
| **Pipette into test tubes ( FREE OF IRON ) :** | |

| | Blank ml | Standard ml | Sample ml |
|---|---|---|---|
| **Supernatant** | **-** | **-** | **0.5** |
| **Reagent 1** | **-** | **0.25** | **-** |
| **Reagent 2** | **0.25** | **0.25** | **-** |
| **Dist. water** | **0.25** | **-** | **-** |
| **Reagent 3** | **0.50** | **0.50** | **0.50** |

**Mix, incubate for 5 min. at 20 - 25°C. Measure the absorbances of the sample ($A_{Sample}$ ) and the standard ($A_{standard}$ ) against blank, at 535 nm. Color stable for one hour. Linearity up to 143 µmol/L (800 µg/dl)**

## CALCULATION :

**Iron Concentration**

$$= \frac{A_{Sample}}{A_{Standard}} \text{ X Standard Conc.}$$

## QUALITY CONTROL :

**For accuracy and reproducibility control:-**
**Assayed Multi – Sera, Normal and Elevated**

## REFERENCE :

**Dreux, C. ( 1977 ) ; Ann. Biol. Clin. 35 : 275 .**

BIODIAGNOSTIC
DIAGNOSTIC AND RESEARCH REAGENTS

# IRON

**Colorimetric Method**
**+15 to +25°C** **50 Tests**
**In vitro diagnostic use**

**CAT. NO.** **IR 15 10**

## REAGENTS

| | | |
|---|---|---|
| **R1** | Standard | **15 ml** |
| **R2** | Acids Mixture | **25 ml** |
| **R3** | Chromogen | **25 ml** |

## CONTACTS

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