



Teco Diagnostics

Intended Use

For the quantitative determination of iron and total iron-binding capacity in human serum.

Principle

The iron in serum is dissociated from its Fe(III) – transferrin complex by the addition of an acidic buffer containing hydroxylamine. This addition reduces the Fe(III) to Fe(II). The chromogenic agent, Ferene, forms a highly colored Fe(II) complex that is measured at 560 nm. The unsaturated iron binding capacity (UIBC) is determined by adding Fe(II) to serum which bind to the iron binding sites on transferrin. The excess ions are reacted with Ferrozine to form the color complex, which is measured photometrically.

CONTACT US:

TECO DIAGNOSTICS

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Test:

Iron/TIBC Reagent Set (I592-100)

Number of Tests:

100 tests

Format:

Liquid

Method:

Colorimetric

Testing Procedure:

Manual

Storage Temperature:

15 – 30°C

Wavelength:

560 nm

Expected Values:

Iron, Total = 60 - 150 µg/dL

TIBC = 250-400 µg/dL

Iron Saturation = 20 - 55%

It is recommended that each laboratory establish its own range of expected values.

Linearity:

500 µg/dL

Reagent Deterioration:

Appearances of turbidity, possible mold growth, or crystal formation that will not readily dissolve are signs of reagent deterioration.

Failure to obtain accurate results in the assay of control materials may indicate reagent deterioration

Limitations of Procedure:

Certain drugs and other substances are known to influence circulating iron levels.

Iron contained in hemoglobin does not react in this method; therefore, slight hemolysis will not interfere. However, gross hemolysis (pink or red specimens) will contribute to the absorbance measured at the wavelength used and should be avoided.

To make tubes, pipettes, etc. iron free, they must be washed with hot dilute 1:3 hydrochloric or nitric acid, followed by several rinsing with iron-free deionized or distilled water.