PATHOZYME DIAGNOSTICS

TRANSFERRIN

(TURBIDIMETRY METHOD)

CAT No.: TRF

Reagent kit for quantitative estimation of Transferrin (TRF) in Serum or Plasma.

DIAGNOSTIC SIGNIFICANCE:

Transferrin is the principal plasma protein for the transport of iron. It is synthesized in the liver and transfers iron through the serum. The TRF molecule specifically binds to the Fe3+ forming the TRF-Fe3+, that goes through the plasma and carries iron to storage sites in the body. Evaluation of plasma TRF levels is useful for the differential diagnosis of anemia, for monitoring its treatment and for assessing the nutritional status of a patient. TRF level rises in the hypochromic anemia (iron deficiency), in pregnancy and during estrogen administration. Low levels of TRF occurs in inflammation and malignancy.

PRINCIPLE:

Anti-human TRF antibodies form insoluble complexes when mixed with samples containing TRF. The scattering light of the immunocomplexes depends of the TRF concentration in the patient sample, and can be quantified by comparison from a calibrator of known TRF concentration.

SPECIMEN COLLECTION:

Fresh serum and EDTA or heparinized Plasma. TRF in serum or plasma is stable for 7 days at 2-8°C or 3 months at –20°C. Samples with presence of fibrin should be centrifuged before testing. Highly Hemolyzed or lipemic samples are not suitable for testing.

KIT PRESENTATION:

PACK SIZE	1 X 20 ml	2 X 20 ml
Transferrin Reagent	1 X 20 ml	2 X 20 ml
Transferrin Calibrator	1 No	1 No

REAGENT PREPARATION:

Transferrin Reagent & Calibrator ready to use.

REAGENT STORAGE AND STABILITY:

Transferrin Reagent and Calibrator are stable at 2-8°C until the expiry date stated on the label. Do not use the reagent after the expiry date.

NOTE: Bring the reagent and calibrator at Room Temperature before use.

INTERFERENCES:

Bilirubin (40 mg/dL), hemoglobin (8 g/L) and rheumatoid factors (200 UI/ml) do not interfere. Lipemia (20 g/L) may affect the results. Other substances may interfere.

ASSAY PARAMETERS:

Reaction	**: End point**	**Sample Volume**	**: 10 µl**
Wavelength	**: 540 nm**	**Reagent Volume**	**: 1000 µl**
Flow Cell Temp.	**: 37 °C**	**Calibrator Conc.**	**: As on vial**
Zero Setting	**: Distilled Water**	**Linearity**	**: 800 mg/dl**
Incubation	**: 2 mins. at 37 °C**	**Unit**	**: mg/dl**

PROCEDURE: Bring the Reagent and Calibrator at R.T. before use.

Pipette into TT	Calibrator	Test
Transferrin Reagent	1000 µl	1000 µl
Transferrin Calibrator	10 µl	--
Sample	--	10 µl

Mix & Incubation for 2 mins at 37 °C. Read Abs of Test (T) and Calibrator(C) against Distilled Water at 540 nm.

CALCULATION:

Transferrin (mg/dl) = Abs T ÷ Abs C X Calibrator Conc.

NORMAL VALUES:

Adults : 200 - 360 mg/dl

Newborn : 117 - 250 mg/dl

Each laboratory should establish its own reference range.

LINEARITY:

This method is linear up to 800 **mg/dl**. For values above 800 mg/dl diluted the sample suitably with 0.9 % saline, and repeat the assay. Apply correction due to dilution to arrive at a final result.

Detection limit: Values less than 1.6 mg/dL give non-reproducible results.

Analytical sensitivity: Using this reagent and method an ΔA of 1.27 mA at 540 nm is equivalent to 1 mg/dL of TRF at a concentration of 407 mg/dL.

Prozone effect: Prozone effect is not observed up to 1500 mg/dl of TRF.

NOTES:

1.This method may be used with different instruments. Any application to an instrument should be validated to demonstrate that results meet the performance characteristics of the method. It is recommended to validate periodically the instrument. Contact to the distributor for any question on the application method.

2. The linearity limit depends on the sample/reagent ratio, as well as the analyzer used. It will be higher by decreasing the sample volume, although the sensitivity of the test will be proportionally decreased.

3. Clinical diagnosis should not be made on findings of a single test result, but should integrate both clinical and laboratory data.

REFERENCES:

1. Tietz textbook of clinical chemistry, 3rd *Ed.*Burtis CA, Ashwood ER. WB Saunders Co.,(1999)
2. Young DS. Effects of drugs on clinical laboratory tests. 3th ed. AACC Press (1997).
3. Friedman and Young. Effects of the disease on clinical laboratory tests, 3th ed. AACC Press, 1997.

IFU No.: 066/00	Rev. No.: 00/120723

Expiry Date | IVD In-Vitro Diagnostics Use | Storage | Mfg. Date | LOT Batch Number | REF Catalogue Number | See Package Insert

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