



# STFR

## Biological Significance

The soluble transferrin receptor (sTfR) is a truncated (shortened form) of the transferrin receptor, formed as a result of proteolysis (the breakdown of proteins into smaller polypeptides or amino acids). A soluble form of the TfR has been identified in animal and human serum, circulating freely in the blood. The serum concentration of sTfR is directly proportional to the concentration of the membrane bound transferrin receptors.

## Clinical Significance

Soluble transferrin receptor is a marker of iron status. In iron deficiency anaemia, soluble transferrin receptor levels are significantly increased, however, remain normal in acute phase conditions including: chronic diseases and inflammation. As such, soluble transferrin receptor measurements are useful in the differential diagnosis of anaemia: anaemia of chronic disease (ACD) or iron deficiency anaemia (IDA).

In IDA, increased soluble transferrin receptor levels have been observed in haemolytic anaemia, sickle cell anaemia, vitamin B12 deficiency and functional iron deficiency in pregnancy.

In ACD, soluble transferrin receptor levels do not correlate with iron status. This was observed in patients with chronic illnesses (cystic fibrosis and cancer), certain infections, autoimmune diseases (insulin-dependent diabetics) and inflammatory diseases.

## Key benefits of the Randox sTfR reagent

- Liquid ready-to-use reagent for convenience and ease of use
- Latex Enhanced Immunoturbidimetric method facilitating testing on biochemistry analysers and eliminating the need for dedicated equipment
- Excellent measuring range of 0.5 – 11.77 mg/L, comfortably detecting levels outside the normal range of 0.65 - 1.88mg/L
- Excellent correlation coefficient of  $r=0.977$  when compared against another commercially available method
- Stable to expiry when stored at +2 to +8°C
- Applications available detailing instrument-specific settings for a wide range of clinical chemistry analysers

## Iron deficiency testing panel

- Randox offer a few other assays used in the diagnosis of iron deficiency:
- Iron – to measure the level of iron in the blood
- Total Iron-Binding Capacity (TIBC) – measurement of the protein (transferrin) that carries iron through the blood will be increased
- Transferrin – The ratio of serum iron to iron-binding capacity (UIBC)
- Ferritin – Considered to be the most specific for identifying iron deficiency unless infection or inflammation are present. Ferritin is used to measure the amount of stored iron in your body and is usually low in anaemia.