

TGF β -1 (Transforming Growth Factor β -1) - ELISA

Analyte: Transforming Growth Factor β -1

Specimen Type: Platelet Poor EDTA Plasma; Please contact PBI for collection instructions

Optimum Volume: 0.5 mL

Stability:

2-8 Degrees C	-20 Degrees C	-70 Degrees C
1 day	N.A.	9 years

Reporting Units: pg/mL

Method: ELISA

Biological or Clinical Significance:

Transforming growth factor (TGF), a 'factor' that promoted the transformation of cultured fibroblasts into a tumor-like phenotype, was subsequently found to be more of a tumor suppressor than tumor promoter and to be a mixture of two proteins, TGF- α and TGF- β . These molecules are members of a superfamily that includes TGF- β 1 through 5, bone morphogenic proteins, activins and inhibins. Human TGF- β 1 is a 25 kDa, disulfide-linked, non-glycosylated homodimer.

TGF- β 1 is cleaved from the C-terminus of a disulfide-linked dimer of pro-TGF- β 1 by a subtilisin-like pro-protein convertase protease. It is normally secreted as an inactive, or latent, complex.

Two different receptor proteins are involved in TGF- β 1 signaling. TGF- β 1 is synthesized, with only a few exceptions, by virtually all cells, and TGF receptors are expressed by all cells.

There are three fundamental activities: TGF- β 1 modulates cell proliferation, generally as a suppressor; TGF- β 1 enhances the deposition of extracellular matrix through promotion of synthesis and inhibition of degradation; TGF- β 1 is immunosuppressive through a variety of mechanisms. The specific action of TGF- β on a particular cell depends on the exact circumstances of that cell's environment.

Principle of Test Method:

The TGF-B1 assay is a solid-phase ELISA that employs the quantitative sandwich enzyme immunoassay principle.