

## Product datasheet

# Human TGF beta 1 ELISA Kit ab100647

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### Overview

**Product name** Human TGF beta 1 ELISA Kit

**Detection method** Colorimetric

**Precision**

Intra-assay

Sample	n	Mean	SD	CV%
Overall				< 10%

Inter-assay

Sample	n	Mean	SD	CV%
Overall				< 12%

**Sample type** Cell culture supernatant, Serum, Plasma

**Assay type** Sandwich (quantitative)

**Sensitivity** < 80 pg/ml

**Range** 0.082 ng/ml - 60 ng/ml

**Recovery** 96 %

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	97.87	85% - 104%
Serum	94.46	82% - 102%
Plasma	95.78	93% - 103%

**Assay duration** Multiple steps standard assay

**Species reactivity** **Reacts with:** Human

**Product overview** Human TGF beta 1 ELISA (Enzyme-Linked Immunosorbent Assay) kit (ab100647) is an *in vitro* enzyme-linked immunosorbent assay for the quantitative measurement of Human TGF beta 1 in serum, plasma and cell culture supernatants.

This assay employs an antibody specific for Human TGF beta 1 coated on a 96-well plate. Standards and samples are pipetted into the wells and TGF beta 1 present in a sample is bound to the wells by the immobilized antibody. The wells are washed and biotinylated anti-Human TGF beta 1 antibody is added. After washing away unbound biotinylated antibody, HRP-conjugated streptavidin is pipetted to the wells. The wells are again washed, a TMB substrate solution is added to the wells and color develops in proportion to the amount of TGF beta 1 bound. The Stop Solution changes the color from blue to yellow, and the intensity of the color is measured at 450 nm.

**Notes** Optimization may be required with urine samples.

**Tested applications** **Suitable for:** Sandwich ELISA

**Platform** Microplate

## Properties

**Storage instructions** Store at -20°C. Please refer to protocols.

Components	1 x 96 tests
20X Wash Buffer Concentrate	1 x 25ml
500X HRP-Streptavidin Concentrate	1 x 200µl
5X Assay Diluent	1 x 15ml
Biotinylated anti-Human TGF beta 1 (lyophilized)	2 vials
Recombinant Human TGF beta 1 Standard (lyophilized)	2 vials
Stop Solution	1 x 8ml
TGF beta 1 Microplate (12 x 8 wells)	1 unit
TMB One-Step Substrate Reagent	1 x 12ml

**Function** Multifunctional protein that controls proliferation, differentiation and other functions in many cell types. Many cells synthesize TGFB1 and have specific receptors for it. It positively and negatively regulates many other growth factors. It plays an important role in bone remodeling as it is a potent stimulator of osteoblastic bone formation, causing chemotaxis, proliferation and differentiation in committed osteoblasts.

**Tissue specificity** Highly expressed in bone. Abundantly expressed in articular cartilage and chondrocytes and is increased in osteoarthritis (OA). Co-localizes with ASPN in chondrocytes within OA lesions of articular cartilage.

**Involvement in disease** Defects in TGFB1 are the cause of Camurati-Engelmann disease (CE) [MIM:131300]; also known as progressive diaphyseal dysplasia 1 (DPD1). CE is an autosomal dominant disorder characterized by hyperostosis and sclerosis of the diaphyses of long bones. The disease typically presents in early childhood with pain, muscular weakness and waddling gait, and in some cases other features such as exophthalmos, facial paralysis, hearing difficulties and loss of vision.

<b>Sequence similarities</b>	Belongs to the TGF-beta family.
<b>Post-translational modifications</b>	Glycosylated. The precursor is cleaved into mature TGF-beta-1 and LAP, which remains non-covalently linked to mature TGF-beta-1 rendering it inactive.
<b>Cellular localization</b>	Secreted > extracellular space > extracellular matrix.

## Applications

Our [Abpromise guarantee](#) covers the use of **ab100647** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Sandwich ELISA		Use at an assay dependent concentration.

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