# Recombinant human TGF beta 1 protein (Active)

**ab50038**

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Recombinant human TGF beta 1 protein (Active)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biological activity</strong></td>
<td>The $\text{ED}_{50}$, as determined by TGF beta 1’s ability to inhibit the mouse IL-4-dependent proliferation of mouse HT-2 cells, is ≤ 0.05 ng/ml, corresponding to a specific activity of &gt;2 x 10$^7$ units/mg</td>
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<tr>
<td><strong>Purity</strong></td>
<td>&gt; 98 % SDS-PAGE. &gt;98% HPLC analyses.</td>
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<tr>
<td><strong>Endotoxin level</strong></td>
<td>&lt; 1.000 Eu/µg</td>
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<tr>
<td><strong>Expression system</strong></td>
<td>CHO cells</td>
</tr>
<tr>
<td><strong>Accession</strong></td>
<td>P01137</td>
</tr>
<tr>
<td><strong>Protein length</strong></td>
<td>Full length protein</td>
</tr>
<tr>
<td><strong>Animal free</strong></td>
<td>No</td>
</tr>
<tr>
<td><strong>Nature</strong></td>
<td>Recombinant</td>
</tr>
<tr>
<td><strong>Species</strong></td>
<td>Human</td>
</tr>
<tr>
<td><strong>Sequence</strong></td>
<td>ALDTNYCFSS TEKNCCVRQL YDFRKDLGW KWIHEPKGYH ANFCLGCPKY IWSDLTQYSK VLALYNQHNP GASAAPCCVP QALEPLPIVY YVGRPKQEVQ LSNNMVRSCCK CSALDTNYCF SSTEKNCCVR QLYDFRKDL GWKWIHEPKG YHANFCGLPC PYWSDLTQY SKVLALYNQH NPGASAAPCC VPQALEPLPI VYYVGRPKKV EQLSNMVRSC CKCS</td>
</tr>
<tr>
<td><strong>Predicted molecular weight</strong></td>
<td>25 kDa</td>
</tr>
<tr>
<td><strong>Amino acids</strong></td>
<td>279 to 390</td>
</tr>
<tr>
<td><strong>Additional sequence information</strong></td>
<td>ab50038 is composed of two identical 112 amino acid polypeptide chains linked by a single disulfide bond. It is the mature protein after cleavage of the signal peptide and latency-associated peptide.</td>
</tr>
</tbody>
</table>

## Specifications

Our [Abpromise guarantee](#) covers the use of **ab50038** in the following tested applications.

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

HPLC
SDS-PAGE
Functional Studies

Form

Lyophilised

Preparation and Storage

Stability and Storage
Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle. For long term storage it is recommended to add a carrier protein on reconstitution (0.1% HSA or BSA). Working aliquots stored with a carrier protein are stable for at least 3 months at -20°C to -80°C.

This product is an active protein and may elicit a biological response in vivo, handle with caution.

Reconstitution
Centrifuge the vial prior to opening. For lot GR18648 Reconstitute in 10mM Citric Acid, pH 3.0 to 0.1-1.0 mg/ml. For all other lots reconstitute in water to a concentration of 0.1- 1.0 mg/ml. Do not vortex. If you have any questions regarding the reconstitution of ab50038 please contact scientific support.

General Info

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 remodelling 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.

Sequence similarities
Belongs to the TGF-beta family.

Post-translational modifications
Glycosylated.

The precursor is cleaved into mature TGFB-beta-1 and LAP, which remains non-covalently linked to mature TGFB-beta-1 rendering it inactive.

Cellular localization
Secreted > extracellular space > extracellular matrix.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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• We investigate all quality concerns to ensure our products perform to the highest standards

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