

## TGF beta 1/TGFB1 Protein, Canine (HEK293, His)

Cat. No.:	HY-P73617
Synonyms:	Transforming growth factor beta-1 proprotein; LAP; TGF-beta-1; TGFB1
Species:	Canine
Source:	HEK293
Accession:	P54831 (L30-S390)
Gene ID:	403998
Molecular Weight:	Approximately 43.4 kDa

### PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

Background	<p>The Transforming Growth Factor Beta-1 (TGFB1) proprotein serves as the precursor for both the Latency-associated peptide (LAP) and the active Transforming Growth Factor Beta-1 (TGF-beta-1) chains, which constitute the regulatory and active subunit of TGF-beta-1, respectively. It plays a crucial role in maintaining the TGF-beta-1 chain in a latent state during storage within the extracellular matrix. TGFB1 associates non-covalently with TGF-beta-1 and regulates its activation through interactions with 'milieu molecules,' such as LTBP1, LRRC32/GARP, and LRRC33/NRROS, controlling the activation of TGF-beta-1. Notably, the interaction with LRRC33/NRROS regulates TGF-beta-1 activation in macrophages and microglia, while the interaction with LRRC32/GARP controls activation on the surface of activated regulatory T-cells (Tregs). Additionally, the interaction of TGFB1 with integrins (ITGAV:ITGB6 or ITGAV:ITGB8) induces the distortion of the Latency-associated peptide chain, leading to the subsequent release of active TGF-beta-1.</p>
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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