

# Human CTLA-4, C-His Tag Protein

HA210885



<b>Product name:</b>	Human CTLA-4, C-His Tag
<b>Species reactivity:</b>	Human
<b>Bio-Activity:</b>	Testing in progress.
<b>Protein construction description:</b>	A DNA sequence encoding the human CTLA-4 protein (P16410) (Lys 36-Asp 161) was expressed with a His tag at the C-terminus

<b>Background:</b>	CTLA-4 or CTLA4 (cytotoxic T-lymphocyte-associated protein 4), also known as CD152 (cluster of differentiation 152), is a protein receptor that functions as an immune checkpoint and downregulates immune responses. CTLA-4 is constitutively expressed in regulatory T cells but only upregulated in conventional T cells after activation – a phenomenon which is particularly notable in cancers. It acts as an "off" switch when bound to CD80 or CD86 on the surface of antigen-presenting cells. Variants in this gene have been associated with Type 1 diabetes, Graves' disease, Hashimoto's thyroiditis, celiac disease, systemic lupus erythematosus, thyroid-associated orbitopathy, primary biliary cirrhosis and other autoimmune diseases. Polymorphisms of the CTLA-4 gene are associated with autoimmune diseases such as rheumatoid arthritis, autoimmune thyroid disease and multiple sclerosis, though this association is often weak. In systemic lupus erythematosus (SLE), the splice variant sCTLA-4 is found to be aberrantly produced and found in the serum of patients with active SLE. Germline haploinsufficiency of CTLA-4 leads to CTLA-4 deficiency or CHAI disease (CTLA4 haploinsufficiency with autoimmune infiltration), a rare genetic disorder of the immune system. Symptomatic patients with CTLA-4 mutations are characterized by an immune dysregulation syndrome including extensive T cell infiltration in a number of organs, including the gut, lungs, bone marrow, central nervous system. Once a diagnosis is made, the treatment is based on an individual's clinical condition and may include standard management for autoimmunity and immunoglobulin deficiencies. The comparatively higher binding affinity of CTLA-4 than CD28 has made it a potential therapy for autoimmune diseases.
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<b>Purity:</b>	>95% as determined by SDS-PAGE.
<b>Endotoxin:</b>	Less than 1.0 EU per µg by the LAL method.
<b>Fragment region:</b>	CTLA-4 (36-161)
<b>Source:</b>	HEK293
<b>Accession:</b>	P16410
<b>Predicted molecular mass:</b>	14.9 kD
<b>Formulation:</b>	Lyophilized from a 0.2 µm filtered solution of PBS, pH7.4, 5% Trehalose, 5% mannitol.
<b>Reconstitution:</b>	Reconstitute at 250 µg/ml in sterile water.
<b>Storage:</b>	Please avoid repeated freeze-thaw cycles. Samples are stable for up to twelve months from date of receipt at -20°C to -80°C. It is recommended that aliquot the reconstituted solution to minimize freeze-thaw cycles.

Hangzhou Huaan Biotechnology Co., Ltd.

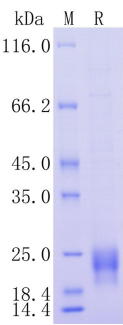
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**Fig1:** Protein on SDS-PAGE under reducing (R) condition.

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