

Human CTLA-4 ELISA Kit ab264616

Recombinant SimpleStep ELISA[®]

[4 Images](#)

Overview

Product name Human CTLA-4 ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

| Sample | n | Mean | SD | CV% |
|--------|---|------|----|------|
| Serum | 8 | | | 1.9% |

Inter-assay

| Sample | n | Mean | SD | CV% |
|--------|---|------|----|------|
| Serum | 3 | | | 1.4% |

Sample type

Cell culture supernatant, Serum, Cell Lysate, Cell culture media, Hep Plasma, EDTA Plasma, Cit plasma

Assay type

Sandwich (quantitative)

Sensitivity

13.2 pg/ml

Range

46.88 pg/ml - 3000 pg/ml

Recovery

Sample specific recovery

| Sample type | Average % | Range |
|--------------------------|-----------|-----------|
| Cell culture supernatant | 97 | 95% - 98% |
| Serum | 95 | 93% - 98% |
| Hep Plasma | 93 | 91% - 95% |
| EDTA Plasma | 89 | 87% - 92% |
| Cit plasma | 91 | 88% - 96% |

Assay time

1h 30m

Assay duration

One step assay

Species reactivity**Reacts with:** Human**Product overview**

Human CTLA-4 ELISA Kit (ab264616) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of CTLA-4 protein in cell culture supernatant, cell lysate, cit plasma, edta plasma, hep plasma, serum, and cell culture media. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human CTLA-4 with 13.2 pg/ml sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate (**ab203359**) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

Notes

Cytotoxic T lymphocyte antigen-4 (CTLA-4) is a transmembrane protein expressed on T regulator cells. CTLA-4 is a negative regulator of T cell activation. CTLA-4 binds markers on antigen presenting cells (APC) including B7, which functions as an immune check point to down regulate the immune response. Blocking CTLA-4 allows for activation and proliferation of more T cells which reduces the mediated immunosuppression. CTLA-4 soluble extracellular domain in serum and plasma is an indication of autoimmune diseases.

Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.

It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties**Storage instructions**

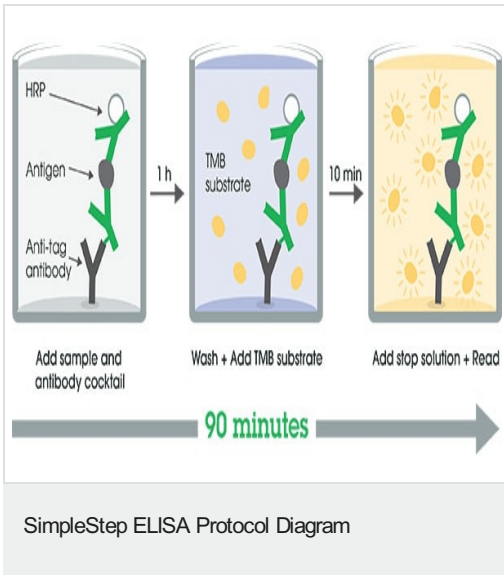
Store at +4°C. Please refer to protocols.

| Components | 1 x 96 tests |
|--|--------------|
| 10X Human CTLA-4 Detector Antibody | 1 x 600µl |
| 10X Wash Buffer PT (ab206977) | 1 x 20ml |
| 50X Cell Extraction Enhancer Solution (ab193971) | 1 x 1ml |
| 5X Cell Extraction Buffer PTR (ab193970) | 1 x 10ml |
| Antibody Diluent 4BI | 1 x 6ml |

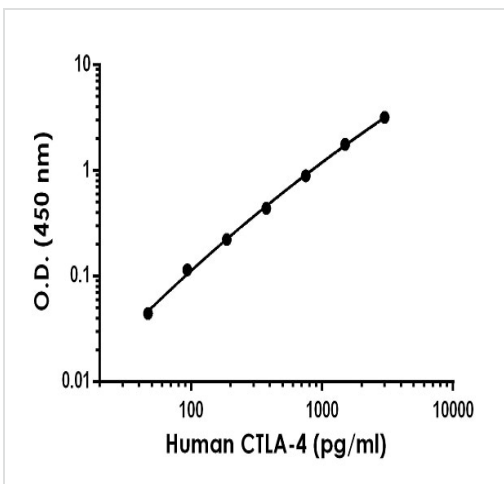
| Components | 1 x 96 tests |
|---|--------------|
| Human CTLA-4 Lyophilized Recombinant Protein | 2 vials |
| Lyophilized Human CTLA-4 Capture Antibody | 1 vial |
| Plate Seals | 1 unit |
| Sample Diluent NS (ab193972) | 1 x 50ml |
| SimpleStep Pre-Coated 96-Well Microplate (ab206978) | 1 unit |
| Stop Solution | 1 x 12ml |
| TMB Development Solution | 1 x 12ml |

| | |
|---|---|
| Function | Inhibitory receptor acting as a major negative regulator of T-cell responses. The affinity of CTLA4 for its natural B7 family ligands, CD80 and CD86, is considerably stronger than the affinity of their cognate stimulatory coreceptor CD28. |
| Tissue specificity | Widely expressed with highest levels in lymphoid tissues. Detected in activated T-cells where expression levels are 30- to 50-fold less than CD28, the stimulatory coreceptor, on the cell surface following activation. |
| Involvement in disease | <p>Genetic variation in CTLA4 influences susceptibility to systemic lupus erythematosus (SLE) [MIM:152700]. SLE is a chronic, inflammatory and often febrile multisystemic disorder of connective tissue. It affects principally the skin, joints, kidneys and serosal membranes. SLE is thought to represent a failure of the regulatory mechanisms of the autoimmune system. Note=Genetic variations in CTLA4 may influence susceptibility to Graves disease, an autoimmune disorder associated with overactivity of the thyroid gland and hyperthyroidism.</p> <p>Genetic variation in CTLA4 is the cause of susceptibility to diabetes mellitus insulin-dependent type 12 (IDDM12) [MIM:601388]. A multifactorial disorder of glucose homeostasis that is characterized by susceptibility to ketoacidosis in the absence of insulin therapy. Clinical features are polydipsia, polyphagia and polyuria which result from hyperglycemia-induced osmotic diuresis and secondary thirst. These derangements result in long-term complications that affect the eyes, kidneys, nerves, and blood vessels.</p> <p>Genetic variation in CTLA4 is the cause of susceptibility to celiac disease type 3 (CELIAC3) [MIM:609755]. It is a multifactorial disorder of the small intestine that is influenced by both environmental and genetic factors. It is characterized by malabsorption resulting from inflammatory injury to the mucosa of the small intestine after the ingestion of wheat gluten or related rye and barley proteins. In its classic form, celiac disease is characterized in children by malabsorption and failure to thrive.</p> |
| Sequence similarities | Contains 1 Ig-like V-type (immunoglobulin-like) domain. |
| Post-translational modifications | <p>N-glycosylation is important for dimerization.</p> <p>Phosphorylation at Tyr-201 prevents binding to the AP-2 adapter complex, blocks endocytosis, and leads to retention of CTLA4 on the cell surface.</p> |
| Cellular localization | Cell membrane. Exists primarily an intracellular antigen whose surface expression is tightly regulated by restricted trafficking to the cell surface and rapid internalisation and. |

Images

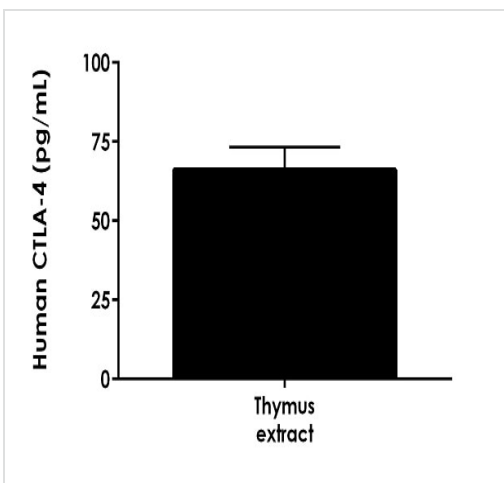


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



The CTLA-4 standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.

Example of human CTLA-4 standard curve in Sample Diluent NS.



The concentration of CTLA-4 were measured in duplicate and interpolated from the CTLA-4 standard curve. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean CTLA-4 concentration was determined to be 66.2 pg/mL in thymus sample

Interpolated concentration of native CTLA-4 in human thymus tissue extract based on a 250 µg/mL extract load.

Powered by
recombinant antibodies



Research with confidence
Consistent and reproducible results



Long-term and scalable supply
Recombinant technology



Success from the first experiment
Confirmed specificity



Ethical standards compliant
Animal-free production

Sandwich ELISA - Human CTLA-4 ELISA Kit
(ab264616)

To learn more about the advantages of recombinant antibodies see [here](#).

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