

Interleukin-2 ELISA Kit | IL-2 elisa kit

Interleukin-2 (IL-2)

CATALOG #
AAA14616

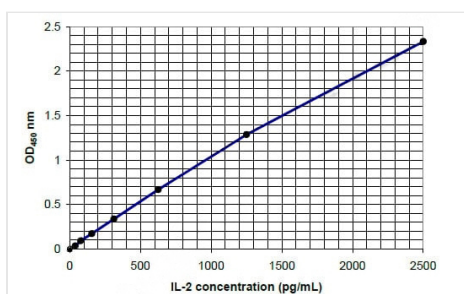
PRODUCT SYNONYMS

Interleukin-2; Interleukin-2 (IL-2); IL-2 elisa kit

PRODUCT SPECIFICATIONS

Specificity	This sandwich ELISA can detect both natural and recombinant human IL-2. This kit exhibits no significant cross-reactivity with human IL-1, IL-3, IL-4, IL-6, IL-7, IL-8, G-CSF, GM-CSF, TGF-beta1, TGF-beta2, TNF-alpha, TNF-beta.
Sequence Length	153
Samples	Serum, plasma, cell culture supernatant, and other biological fluids
Assay Type	Quantitative Sandwich
Intra-assay Precision	To determine within-run precision, three different samples of known concentration were assayed by replicates of twenty in 1 assay.
Inter-assay Precision	To determine between-run precision, three different samples of known concentration were assayed by replicates on 20 different assays.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for IL-2 elisa kit	Intended Uses: This Human Interleukin 2 ELISA Kit is to be used for the in vitro quantitative determination of human interleukin 2 (IL-2) concentrations in serum, plasma, cell culture supernatant, and other biological fluids. This kit is intended FOR LABORATORY RESEARCH USE ONLY. Principle of the Assay: This assay employs the quantitative sandwich enzyme immunoassay technique. A monoclonal antibody specific for IL-2 has been pre-coated onto a microplate. Standards and samples are pipetted into the wells and any IL-2 present is bound by the immobilized antibody. After washing away any unbound substances, an enzyme-linked polyclonal antibody specific for IL-2 is added to the wells. Following a wash to remove any unbound antibody-enzyme reagent, a substrate solution is added to the wells and colour develops in proportion to the amount of IL-2 bound in the initial step. The colour development is stopped and the intensity of the colour is measured. In order to measure the concentration of IL-2 in the samples this kit includes two calibration diluents (Calibrator Diluent I for serum/plasma testing and Calibrator Diluent II for cell culture supernatant testing.) According to the testing system, the provided standard is diluted (2-fold) with the appropriate Calibrator Diluent and assayed at the same time as the samples. This allows the operator to produce a standard curve of Optical Density (O.D) versus IL-2 concentration (pg/mL). The concentration of IL-2 in the samples is then determined by comparing the O.D. of the samples to the standard curve. Background/Introduction: Interleukin 2 (IL-2) is a lymphokine synthesized and secreted primarily by T helper lymphocytes that have been activated by stimulation with certain mitogens or by interaction of the T cell receptor complex with antigen/MHC complexes on the surfaces of antigen-presenting cells. The response of T helper cells to activation is induction of the expression of IL-2 and receptors for IL-2 and, subsequently, clonal expansion of antigenspecific T cells. At this level IL-2 is an autocrine factor, driving the expansion of the antigen-specific cells. IL-2 also acts as a paracrine factor, influencing the activity of other cells, both within the immune system and outside of it. B cells and natural killer (NK) cells respond to IL-2 when properly activated. The so-called lymphocyte activated killer, or LAK cells, appears to be derived from NK cells under the influence of IL-2. Human IL-2 is a glycoprotein with an apparent molecular weight of 15,000 - 18,000. Natural IL-2 is glycosylated and varying degrees of glycosylation apparently account for the observed range of molecular weights seen on SDS-PAGE. Human IL-2 is synthesized as a polypeptide of 153 amino acid residues. The first 20 amino acids represent a signal sequence that is cleaved to produce the mature factor. The mature protein contains three cysteine residues, two of which form a disulfide bond that is required for biological activity. Murine IL-2 is approximately 63% identical to human IL-2, but contains a unique stretch of repeated glutamine residues. There is marked species cross-reactivity as human IL-2 has been found to be active on murine cell lines. Cells known to produce IL-2 include thymocytes, gamma delta T cells, B cells, CD4+ and CD8+ T cells, and neurons plus astrocytes. IL-2 is a factor produced and secreted primarily by activated T helper cells that acts as a autocrine factor driving the expansion of antigen-specific cells and as a paracrine factor influencing the activity of a number of other cells including B cells, NK cells and LAK cells. A simplified but useful view of these activities is of lymphocytes expanding under the influence of IL-2 and becoming the target of other cytokines that cause their functional differentiation. With respect to the specific role of IL-2 on the differentiation of T cells, the separation of CD4+ T helper cells into the categories of TH1 and TH2 according to their function in cell mediated or humoral immunity is a concept that is proving useful. In this system each category of cells secretes a characteristic set of cytokines that functions as a network to push the system either towards cellular immunity (delayed type hyper-sensitivity and cellular cytotoxicity) associated with TH1, or towards humoral immunity (antibodymediated) associated with TH2. IL-2, along with IFN-gamma and TNF-beta, is a defining product of the TH1 subset. Although the TH1 and TH2 subsets are relatively clearly defined in the murine immune system, these categories are not so clear-cut in the human immune system where the designations TH1-like and TH2-like have been suggested. Other cells under the possible influence of IL-2 are neutrophils, monocytes, and gamma delta T cells, all of which demonstrate either activation, augmented function, or increased survival when exposed to IL-2. Finally, it should be mentioned that IL-2 is finding its way, along with many other cytokines, into the neurosciences as a possible neuromodulator and growth regulator of glial cells. Because of the central role of the IL-2/IL-2R system in mediation of the immune response, it is obvious that monitoring and manipulation of this system has important test and therapeutic implications. IL-2 has shown promise as an anti-cancer drug by virtue of its ability to stimulate the proliferation and activities of tumor-attacking LAK and TIL (tumorinfiltrating lymphocytes) cells. However, problems with IL-2 toxicity are still of concern and merit investigation.
Product Categories/Family for IL-2 elisa kit	ELISA Kits for Human Cytokines and Receptors

NCBI AND UNIPROT INFORMATION

NCBI GI #	512412
NCBI GeneID	3558

Molecular Weight	17,628 Da
NCBI Official Full Name	interleukin-2
NCBI Official Synonym Full Names	interleukin 2
NCBI Official Symbol	IL2
NCBI Official Synonym Symbols	IL-2; TCGF; lymphokine
NCBI Protein Information	interleukin-2; T cell growth factor; aldesleukin; involved in regulation of T-cell clonal expansion
UniProt Protein Name	Interleukin-2
UniProt Gene Name	IL2
UniProt Entry Name	IL2_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/il-2-elisa-kits/interleukin-2/14616>