Anti-Human IL-2 Receptor alpha Antibody [PSH05-66] - BSA and Azide free (Detector)

HA722386

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Det)
Clone number:	PSH05-66

Description: Interleukin-2 receptor alpha chain (also called CD25) is the human protein encoded by the IL2RA gene. The interleukin 2 (IL2) receptor alpha (IL2RA) and beta (IL2RB) chains, together with the common gamma chain (IL2RG), constitute the high-affinity IL2 receptor. Homodimeric alpha chains (IL2RA) result in low-affinity receptor, while homodimeric beta (IL2RB) chains produce a medium-affinity receptor. Normally an integral-membrane protein, soluble IL2RA has been isolated and determined to result from extracellular proteolysis. Alternately-spliced IL2RA mRNAs have been isolated, but the significance of each is currently unknown. It is a type I transmembrane protein present on activated T cells, activated B cells, some thymocytes, myeloid precursors, and oligodendrocytes. IL2RA is expressed in most B-cell neoplasms, some acute nonlymphocytic leukemias, neuroblastomas, mastocytosis and tumor infiltrating lymphocytes. It functions as the receptor for HTLV-1 and is consequently expressed on neoplastic cells in adult T cell lymphoma/leukemia. Its soluble form, called sIL-2R may be elevated in these diseases and is occasionally used to track disease progression. Infection by the protozoan Trypanosoma cruzi causes Chagas disease, characterized by a reduction in the amount of IL2RA expressed on the surface of immune cells. This leads to chronic immune suppression, becoming increasingly severe over the course of many years and ultimately resulting in death if left untreated.

Immunogen: Recombinant protein within human IL-2 Receptor alpha aa 22-240 (Extracellular).

Positive control: Recombinant standard Human IL2RA protein (HA210771).

Subcellular location: Membrane.

Database links: SwissProt: P01589 Human

Recommended Dilutions:

ELISA(Det) Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH05-65] to Human IL2RA (Capture) (HA722385) and recombinant standard Human IL2RA protein (HA210771). The reference range value is 8.2-2000pg/ml.

Storage Buffer: PBS (pH7.4).

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

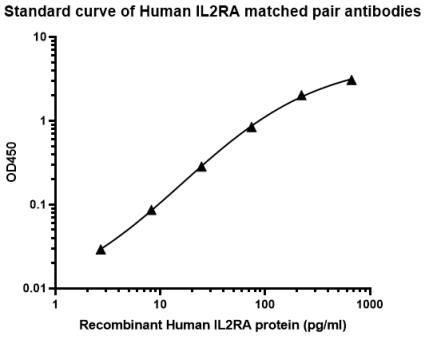

Fig1: Sandwich ELISA analysis of human IL2RA matched pair antibodies

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA722385) diluted in carbonate/bicarbonate buffer, at a concentration of 2 µg/mL overnight at 4℃. Wells of the plate were washed, blocked with 150 µl 0.05% tween-20 1%BSA blocking buffer, and incubated with serial diluted Recombinant human IL2RA protein (HA210771) starting from 2,000 pg/ml to 0 pg/ml and detect antibody (HA722386, Biotin, 0.2 µg/ml) for 1 hour at 30℃ with shaking. Then the plate was washed and incubated with 100 µl per well of SA-HRP for 0.5 hour at 30℃ with shaking. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

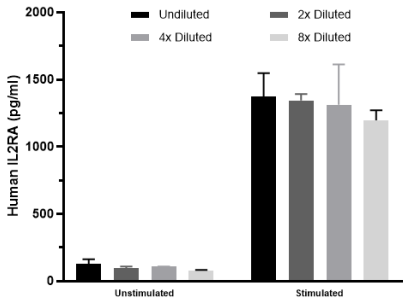

Fig2: Interpolated concentrations of native IL2RA in human PBMC cell culture supernatant.

PBMC cells were stimulated with 10 µg/ml PHA-M or vehicle control and incubated for 2 days. The concentrations of IL2RA measured in duplicate and interpolated from the IL2RA standard curve and corrected for sample dilution. Undiluted samples are as follows: unstimulated 100% and stimulated 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean IL2RA concentration was determined to be 1,306.5 pg/ml in PHA-M stimulated PBMC cell culture supernatant and 101.3 pg/ml in the unstimulated PBMC control.

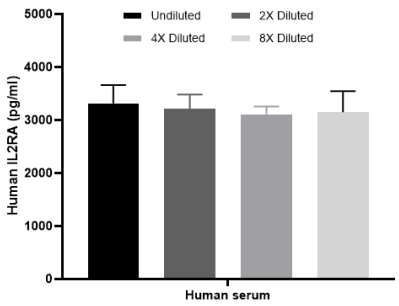

Fig3: Interpolated concentrations of native IL2RA in human serum samples.

The concentrations of IL2RA were measured in triplicates, interpolated from the IL2RA standard curve and corrected for sample dilution. Undiluted samples are human serum 2.5%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=3). The mean IL2RA concentration was determined to be 3,193 pg/mL in human serum.

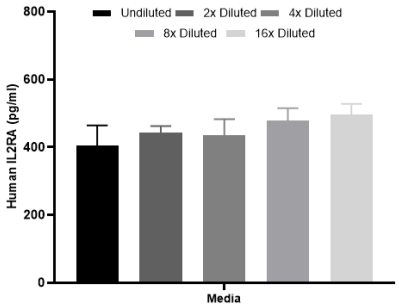

Fig4: Interpolated concentrations of spiked IL2RA in human cell culture media samples.

The concentrations of IL2RA were measured in triplicates, interpolated from the IL2RA standard curves and corrected for sample dilution. Undiluted samples are as follows: cell culture media 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=3).

Background References

1. Goudy K., Aydin D., Barzaghi F., Gambineri E., Vignoli M., Ciullini Mannurita S., Doglioni C., Ponzoni M., Cicalese M.P., Bacchetta R. Human IL2RA null mutation mediates immunodeficiency with lymphoproliferation and autoimmunity. Clin. Immunol. 146:248-261 (2013).
2. Bezrodnik L., Caldirola M.S., Seminario A.G., Moreira I., Gaillard M.I. Follicular bronchiolitis as phenotype associated with CD25 deficiency. Clin. Exp. Immunol. 175:227-234 (2014).