abcam

Product datasheet

Human RANTES ELISA Kit (CCL5) ab174446

Recombinant SimpleStep ELISA

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Overview

Product name Human RANTES ELISA Kit (CCL5)

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			5%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	3			2.8%

Sample type Cell culture supernatant, Serum, Plasma, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 0.091 pg/ml

Range 0.94 pg/ml - 60 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	104	95% - 114%
Serum	107	77% - 132%
Hep Plasma	91	79% - 100%
EDTA Plasma	105	81% - 119%
Cit plasma	105	82% - 124%

Assay time 1h 30m

Assay duration One step assay

Species reactivity

Reacts with: Human

Product overview

Human RANTES ELISA kit (CCL5) (ab174446) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of RANTES protein in human plasma, serum and cell culture supernatant. It uses our proprietary SimpleStep ELISA® technology.
Quantitate human RANTES with 0.091 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 SimpeStep ELISA® kits.

Notes

RANTES (Regulated on Activation, Normal T cell Expressed and Secreted) is a chemotactic cytokine for T cells, eosinophils, and basophils. RANTES also acts as a recruitment signal for leukocytes into inflammatory sites with the help of cyotokines (IL-2 and IFN-γ) released by CD8+ T cells. RANTES also activates and induces proliferation of natural-killer cells to form CHAK (CC-Chemokine-activated killer) cells. RANTES has also been identified to inhibit infection of HIV.

Platform

Microplate

Properties

Storage instructions

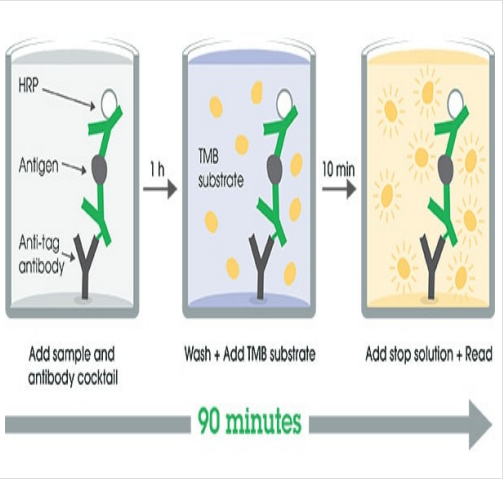
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Human RANTES Capture Antibody	1 x 600µl
10X Human RANTES Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent CPR	1 x 6ml
Human RANTES Lyophilized Recombinant Protein	2 vials
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

Components	1 x 96 tests
TMB Development Solution	1 x 12ml

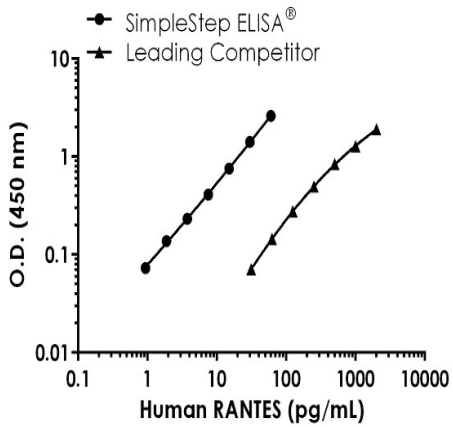
Function	Chemoattractant for blood monocytes, memory T-helper cells and eosinophils. Causes the release of histamine from basophils and activates eosinophils. Binds to CCR1, CCR3, CCR4 and CCR5. One of the major HIV-suppressive factors produced by CD8+ T-cells. Recombinant RANTES protein induces a dose-dependent inhibition of different strains of HIV-1, HIV-2, and simian immunodeficiency virus (SIV). The processed form RANTES(3-68) acts as a natural chemotaxis inhibitor and is a more potent inhibitor of HIV-1-infection. The second processed form RANTES(4-68) exhibits reduced chemotactic and HIV-suppressive activity compared with RANTES(1-68) and RANTES(3-68) and is generated by an unidentified enzyme associated with monocytes and neutrophils.
Tissue specificity	T-cell and macrophage specific.
Sequence similarities	Belongs to the intercrine beta (chemokine CC) family.
Post-translational modifications	N-terminal processed form RANTES(3-68) is produced by proteolytic cleavage, probably by DPP4, after secretion from peripheral blood leukocytes and cultured sarcoma cells. The identity of the O-linked saccharides at Ser-27 and Ser-28 are not reported in PubMed:1380064. They are assigned by similarity.
Cellular localization	Secreted.

Images



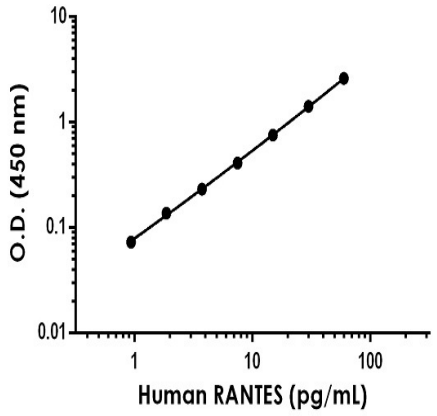
Other - Human RANTES ELISA Kit (CCL5) (ab174446)

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.



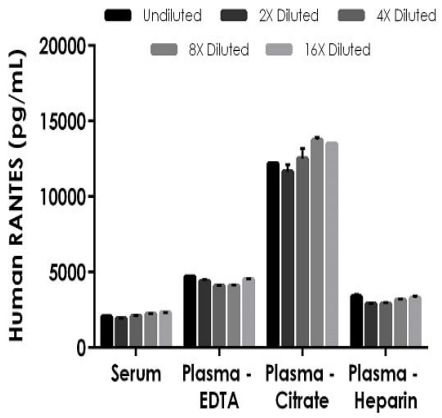
Human RANTES standard curve comparison.

Standard Curve comparison between human RANTES SimpleStep ELISA kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows increased sensitivity.



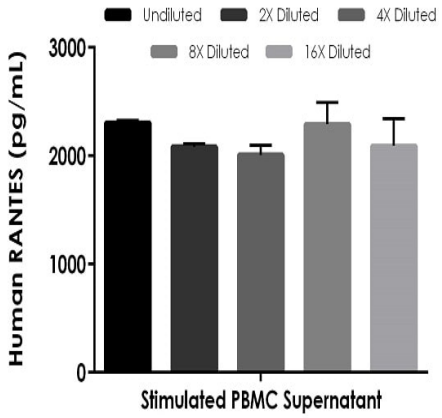
Example of human RANTES standard curve in Sample Diluent NS.

The RANTES 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.



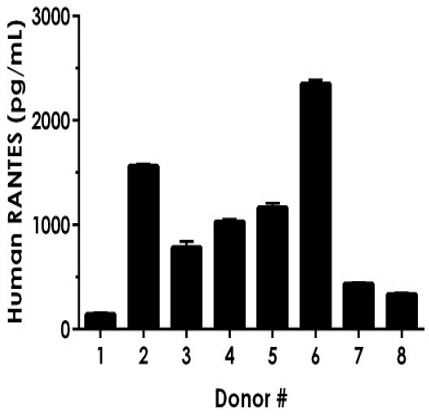
Interpolated concentrations of native RANTES in human serum, and plasma samples.

The concentrations of RANTES were measured in duplicates, interpolated from the RANTES standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 2.5%, plasma (citrate) 0.63%, plasma (heparin) 2.5% and plasma (EDTA) 2.5%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean RANTES concentration was determined to be 2,141 pg/mL in neat serum, 13,050 pg/mL in plasma (citrate) and 3,157 pg/mL in plasma (heparin) and 4,457 pg/mL plasma (EDTA).



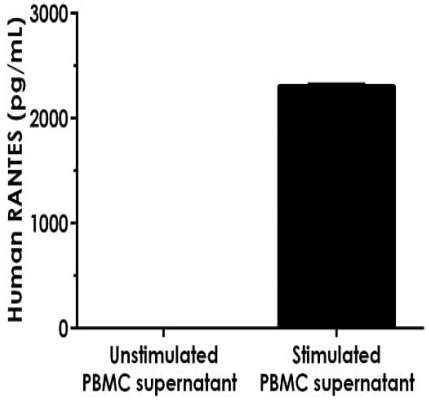
Interpolated concentrations of native RANTES in human PBMC cell culture supernatant stimulated with 1.5% PHA-M for 36 hours.

The supernatant was decanted and assayed. The concentrations of RANTES were measured in duplicates, interpolated from the RANTES standard curves and corrected for sample dilution. Undiluted samples are as follows: PBMC supernatant 1.25%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean RANTES concentration was determined to be 2,156 pg/mL in neat PBMC supernatant.



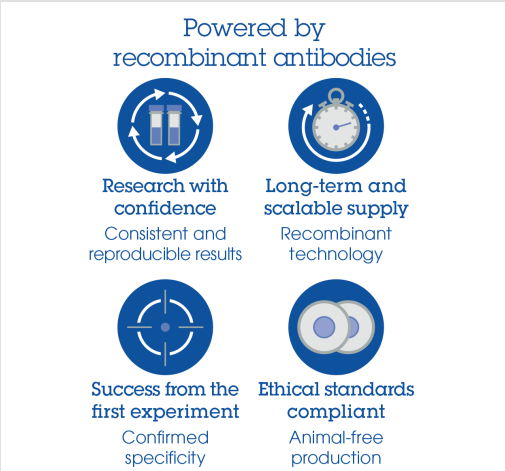
Serum from ten individual healthy human male donors was measured in duplicate.

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean RANTES concentration was determined to be 977 pg/mL with a range of 135–2,378 pg/mL.



Comparison of PHA-M stimulated versus unstimulated PBMC supernatant.

PBMCs were stimulated with 1.5% PHA-M for 36 hours. The concentrations of RANTES were measured in duplicates, interpolated from the RANTES standard curves and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean RANTES concentration was determined to be 2,156 pg/mL in neat PBMC stimulated supernatant and non-detectable in unstimulated supernatant.



Sandwich ELISA - Human RANTES ELISA Kit (CCL5) (ab174446)

To learn more about the advantages of recombinant antibodies see **here**.

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