abcam

Product datasheet

Human RAGE ELISA Kit ab190807

SimpleStep ELISA®

2 References 6 Images

Overview

Product name Human RAGE ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
EDTA plasma	5			1.3%

Inter-assay

Sample	n	Mean	SD	CV%
EDTA plasma	3			7.6%

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

Assay type Sandwich (quantitative)

Sensitivity 2.4 pg/ml

Range 46.87 pg/ml - 3000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	94.9	91.8% - 97.8%
Cell culture media	98.6	96.8% - 101.1%
Hep Plasma	96.7	95.5% - 98%
EDTA Plasma	107.2	101.7% - 116.9%
Cit plasma	86.6	78% - 92.6%

Assay time 1h 30m

Assay duration One step assay

Species reactivity

Reacts with: Human
Does not react with: Goat, Cow, Pig

Product overview

Human RAGE ELISA Kit (ab190807) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of RAGE protein in cell culture supernatant, cit plasma, edta plasma, hep plasma, and serum. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human RAGE with 2.4 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

RAGE mediates interactions of advanced glycosylation end products (AGE). These are non-enzymatically glycosylated proteins which accumulate in vascular tissue in aging and at an accelerated rate in diabetes. RAGE acts as a mediator of both acute and chronic vascular inflammation in conditions such as atherosclerosis and in particular as a complication of diabetes. AGE/RAGE signaling plays an important role in regulating the production/expression of TNF-alpha, oxidative stress, and endothelial dysfunction in type 2 diabetes. RAGE interaction with S100A12 on endothelium, mononuclear phagocytes, and lymphocytes triggers cellular activation, with generation of key pro-inflammatory mediators. RAGE may be a receptor for amyloid beta peptide. RAGE contributes to the translocation of amyloid-beta peptide (ABPP) across the cell membrane from the extracellular to the intracellular space in cortical neurons. ABPP-initiated RAGE signaling, especially stimulation of p38 mitogen-activated protein kinase (MAPK), has the capacity to drive a transport system delivering ABPP as a complex with RAGE to the intra-neuronal space.

Platform

Microplate (12 x 8 well strips)

Properties

Storage instructions

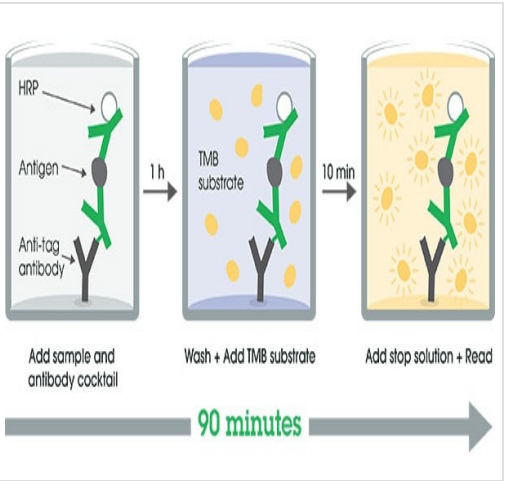
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Human RAGE Capture Antibody	1 x 600µl
10X Human RAGE Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml

Components	1 x 96 tests
Antibody Diluent 5BI	1 x 6ml
Human RAGE Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent 50BS	1 x 20ml
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

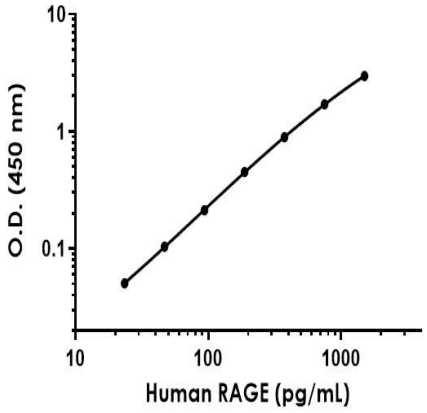
Function	Mediates interactions of advanced glycosylation end products (AGE). These are nonenzymatically glycosylated proteins which accumulate in vascular tissue in aging and at an accelerated rate in diabetes. Acts as a mediator of both acute and chronic vascular inflammation in conditions such as atherosclerosis and in particular as a complication of diabetes. AGE/RAGE signaling plays an important role in regulating the production/expression of TNF-alpha, oxidative stress, and endothelial dysfunction in type 2 diabetes. Interaction with S100A12 on endothelium, mononuclear phagocytes, and lymphocytes triggers cellular activation, with generation of key proinflammatory mediators. Interaction with S100B after myocardial infarction may play a role in myocyte apoptosis by activating ERK1/2 and p53/TP53 signaling (By similarity). Receptor for amyloid beta peptide. Contributes to the translocation of amyloid-beta peptide (ABPP) across the cell membrane from the extracellular to the intracellular space in cortical neurons. ABPP-initiated RAGE signaling, especially stimulation of p38 mitogen-activated protein kinase (MAPK), has the capacity to drive a transport system delivering ABPP as a complex with RAGE to the intraneuronal space.
Tissue specificity	Endothelial cells.
Sequence similarities	Contains 2 Ig-like C2-type (immunoglobulin-like) domains. Contains 1 Ig-like V-type (immunoglobulin-like) domain.
Cellular localization	Secreted and Cell membrane.

Images



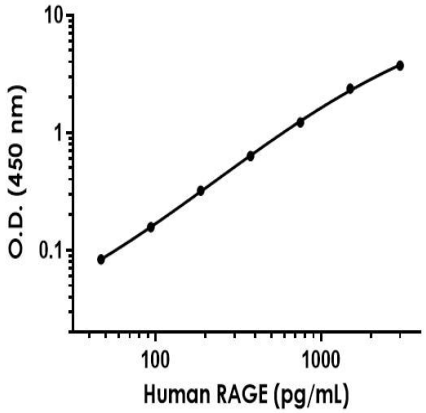
Other - Human RAGE ELISA Kit (ab190807)

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.



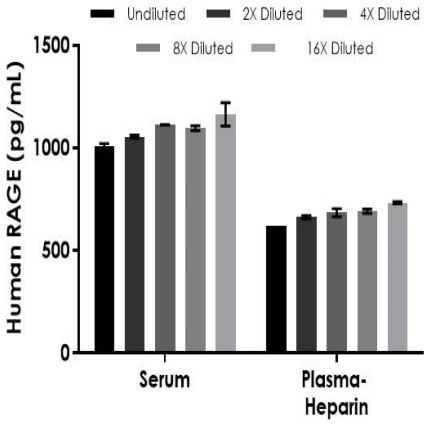
Example of RAGE standard curve prepared in Sample Diluent NS.

Background-subtracted data values (mean +/- SD) are graphed.



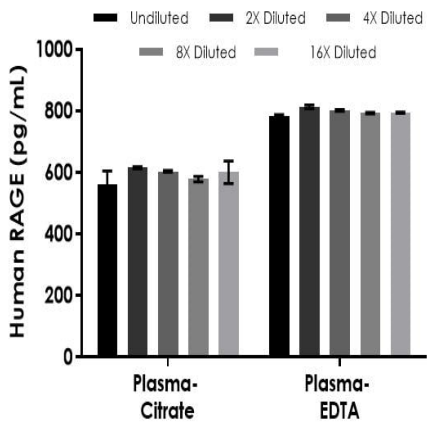
Example of RAGE standard curve prepared in Sample Diluent 50BS.

Background-subtracted data values (mean +/- SD) are graphed.



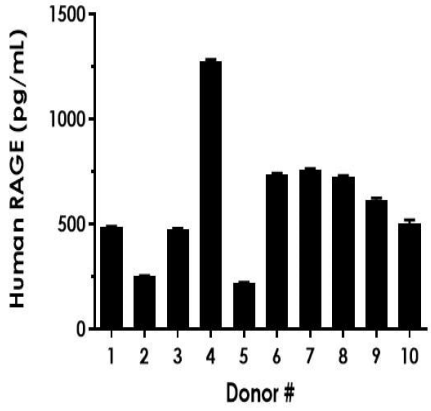
Interpolated concentrations of native RAGE in human serum and plasma (heparin) samples

The concentrations of RAGE were measured in duplicates, interpolated from the RAGE standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 22% and plasma (heparin) 22%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean RAGE concentration was determined to be 1,088 pg/mL in serum and 679 pg/mL in plasma (heparin).



Interpolated concentrations of native RAGE in human plasma (citrate and EDTA) samples.

The concentrations of RAGE were measured in duplicates, interpolated from the RAGE standard curves and corrected for sample dilution. Undiluted samples are as follows: plasma (citrate) 100% and plasma (EDTA) 100%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean RAGE concentration was determined to be 592 pg/mL in plasma (citrate) and 797 pg/mL in plasma (EDTA).



RAGE concentrations in individual Human serum donors.

4.5X diluted serum samples from 10 apparently healthy male donors were measured in triplicates using this kit. Interpolated data values corrected for sample dilution are graphed in pg of RAGE per mL of serum (mean +/- SD, n=3). The mean of RAGE concentration of these serum samples was determined to be 604 pg /mL with a range of 220 – 1276 pg /mL.

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