abcam

Product datasheet

Human EMMPRIN ELISA Kit ab219631

KO VALIDATED Recombinant SimpleStep ELISA

1 References 12 Images

Overview

Product name Human EMMPRIN ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Urine	8			2.5%

Inter-assay

Sample	n	Mean	SD	CV%
Urine	3			3%

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

Assay type Sandwich (quantitative)

Sensitivity 3.88 pg/ml

Range 31.3 pg/ml - 200 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	112	111% - 113%
Saliva	95	94% - 95%
Urine	98	97% - 98%
Serum	97	91% - 102%
Cell culture media	103	99% - 110%
Hep Plasma	115	113% - 117%

Sample type	Average %	Range
EDTA Plasma	108	107% - 109%
Cit plasma	102	100% - 105%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Human
Does not react with: Cow

Product overview Human EMMPRIN ELISA Kit (ab219631) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of EMMPRIN protein in cell culture supernatant, cit plasma, edta plasma, hep plasma, saliva, serum, and urine. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human EMMPRIN with 3.88 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 Extracellular matrix metalloproteinase inducer (EMMPRIN), also known as Basigin (BSG), and CD147 is a 363-amino acid protein encoded by the gene BSG. EMMPRIN is a member of the immunoglobin superfamily, and targets the monocarboxylate transporters SLC16A1, SLC16A3, and SLC16A8 to the plasma membrane. EMMPRIN is the determinant for the Oκ blood group system, and has been demonstrated to be a receptor on red blood cells for the malaria parasite, *Plasmodium falciparum*. In addition to its metalloproteinase-inducing ability, EMMPRIN is thought to regulate several other functions, including spermatogenesis, embryo implantation, neural network formation, and tumor progression. EMMPRIN also has several ligands including cyclophilin proteins, caveolin-1, and integrins.

Platform Pre-coated microplate (12 x 8 well strips)

Properties

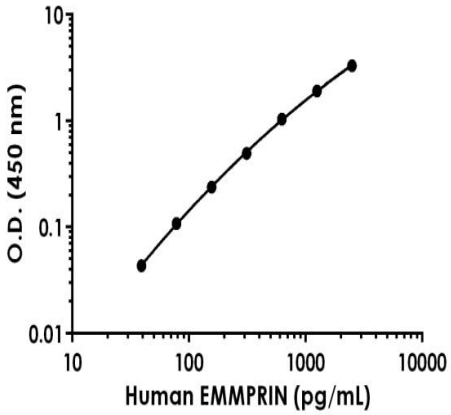
Storage instructions Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Human EMMPRIN Capture Antibody	1 x 600µl

Components	1 x 96 tests
10X Human EMMPRIN Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 4BI	1 x 6ml
Human EMMPRIN 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

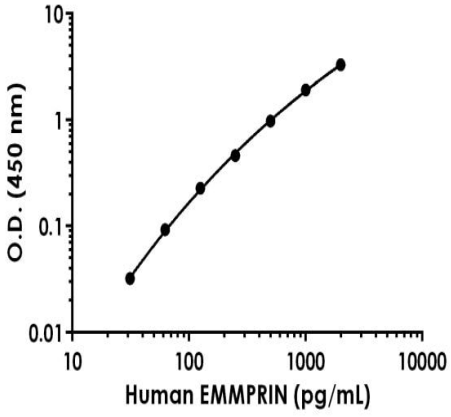
Function	Plays pivotal roles in spermatogenesis, embryo implantation, neural network formation and tumor progression. Stimulates adjacent fibroblasts to produce matrix metalloproteinases (MMPS). May target monocarboxylate transporters SLC16A1, SLC16A3 and SLC16A8 to plasma membranes of retinal pigment epithelium and neural retina. Seems to be a receptor for oligomannosidic glycans. In vitro, promotes outgrowth of astrocytic processes.
Tissue specificity	Present only in vascular endothelium in non-neoplastic regions of the brain, whereas it is present in tumor cells but not in proliferating blood vessels in malignant gliomas.
Sequence similarities	Contains 1 Ig-like C2-type (immunoglobulin-like) domain. Contains 1 Ig-like V-type (immunoglobulin-like) domain.
Post-translational modifications	N-glycosylated.
Cellular localization	Cell membrane. Melanosome. Colocalizes with SLC16A1 and SLC16A8 (By similarity). Identified by mass spectrometry in melanosome fractions from stage I to stage IV.

Images



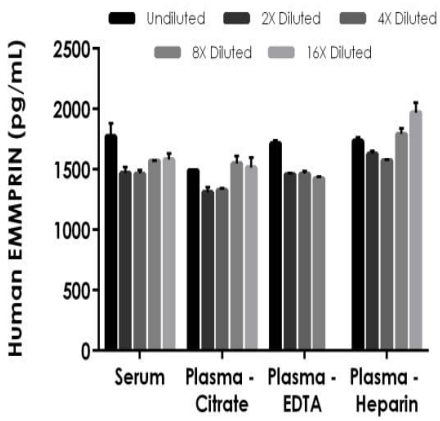
Example of human EMMPRIN standard curve in Sample Diluent 50BS.

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



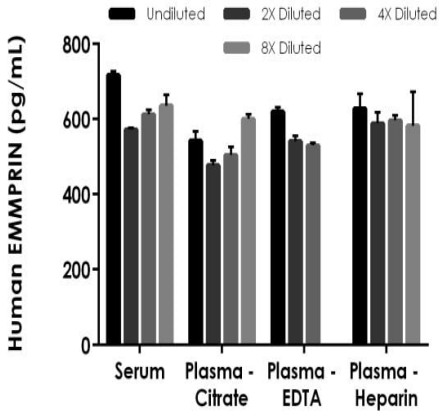
Example of human EMMPRIN standard curve in Sample Diluent NS.

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



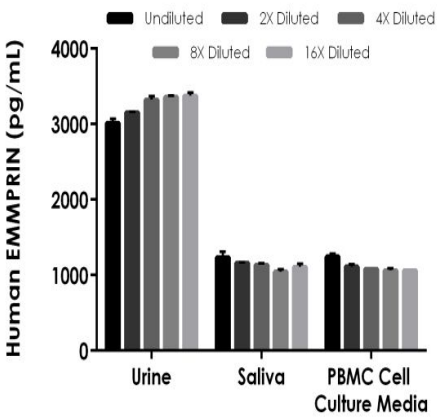
Interpolated concentrations of spiked EMMPRIN in human serum and plasma samples.

The concentrations of EMMPRIN were measured in duplicates, interpolated from the EMMPRIN standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 50%, plasma (citrate) 50%, plasma (EDTA) 50%, and plasma (heparin) 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean EMMPRIN concentration was determined to be 1,572 pg/mL in neat serum, 1,440 pg/mL in neat plasma (citrate), 1,516 pg/mL in neat plasma (EDTA), and 1,740 pg/mL in neat plasma (heparin).



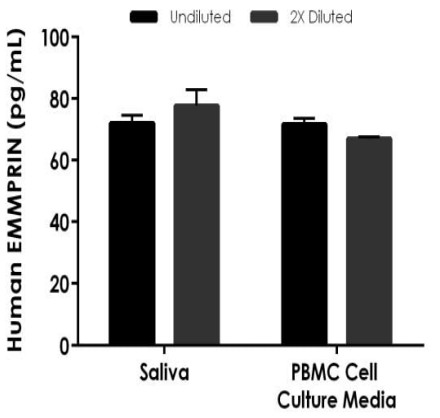
Interpolated concentrations of native EMMPRIN in human serum and plasma samples.

The concentrations of EMMPRIN were measured in duplicates, interpolated from the EMMPRIN standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 50%, plasma (citrate) 50%, plasma (EDTA) 50%, and plasma (heparin) 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean EMMPRIN concentration was determined to be 634 pg/mL in neat serum, 531 pg/mL in neat plasma (citrate), 563 pg/mL in neat plasma (EDTA), and 599 pg/mL in neat plasma (heparin).



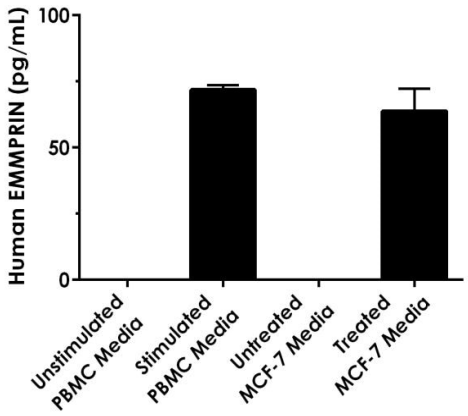
Interpolated concentrations of native EMMPRIN in human urine and spiked EMMPRIN in human saliva and PBMC stimulated cultured media.

The concentrations of EMMPRIN were measured in duplicates, interpolated from the EMMPRIN standard curves and corrected for sample dilution. Undiluted samples are as follows: urine 50%, saliva 100%, and PBMC stimulated culture media 100%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean EMMPRIN concentration was determined to be 3,245 pg/mL in neat urine, 1,135 pg/mL in neat saliva, and 1,111 pg/mL in neat PBMC stimulated culture media.



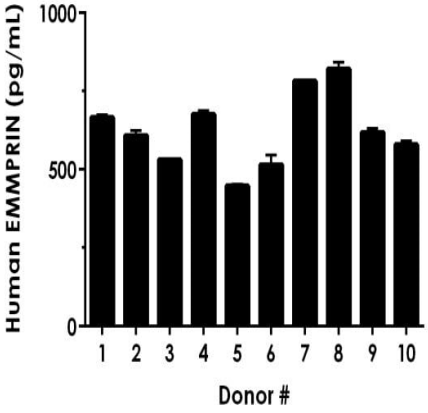
Interpolated concentrations of native EMMPRIN in human saliva and PBMC stimulated cultured media.

The concentrations of EMMPRIN were measured in duplicates, interpolated from the EMMPRIN standard curves and corrected for sample dilution. Undiluted samples are as follows: saliva 100% and PBMC stimulated culture media 100%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean EMMPRIN concentration was determined to be 69 pg/mL in neat saliva, and 75 pg/mL in neat PBMC stimulated culture media.



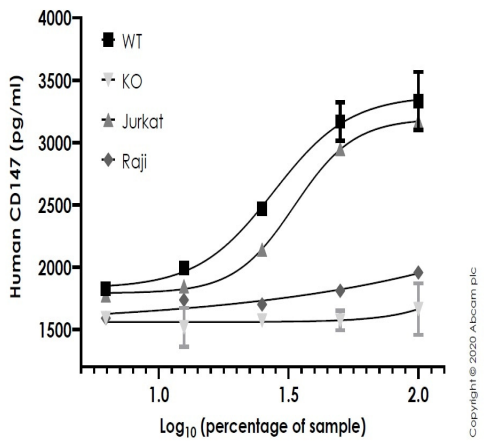
Interpolated concentrations of native EMMPRIN in human cell culture supernatant samples.

The concentrations of EMMPRIN were measured in duplicates, interpolated from the EMMPRIN standard curves and corrected for sample dilution. Undiluted samples are as follows: unstimulated PBMC media 100%, stimulated PBMC media 100%, untreated MCF-7 media 100%, and treated MCF-7 media 100%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean EMMPRIN concentration was determined to be 72 pg/mL in neat stimulated PBMC media and 64 pg/mL in neat treated MCF-7 media. The unstimulated PBMC media and untreated MCF-7 media samples measured below the 7th point of the standard curve. PBMC media samples were cultured in RPMI media with 10% fetal bovine serum (unstimulated) for 24 hours and then stimulated for 48 hours with 1.5% PHAM. MCF-7 media samples were cultured in DMEM media with 10% fetal bovine serum (untreated) and then treated with 0.12 mM NEAA with 1 mM sodium pyruvate (treated) for 24 hours.



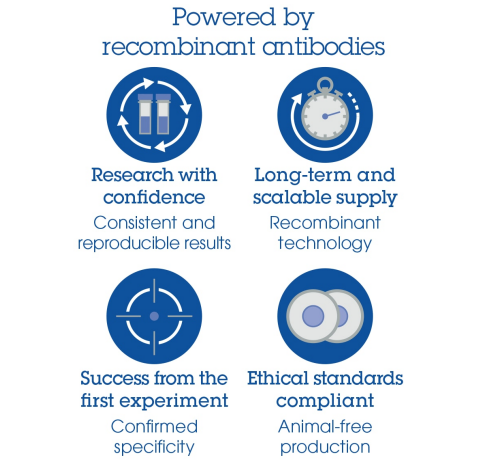
Serum from ten individual healthy human male donors was measured in duplicate.

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean EMMPRIN concentration was determined to be 625 pg/mL with a range of 445- 836 pg/mL.



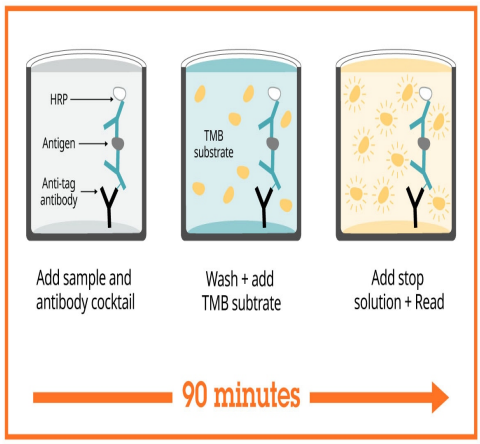
Sandwich ELISA - Human EMMPRIN ELISA Kit (ab219631)

Human CD147 concentration was interpolated from the EMMPRIN (CD147) standard curve. Supernatants from cell culture samples were serially diluted and assessed by the Human EMMPRIN ELISA kit (ab219631). Wild-type and CD147 knockout A549 cells (**ab273748**) were assessed in duplicate (n=2); Jurkat and Raji cells were used as positive and negative controls respectively (n=1). Where samples were run in duplicate, data are represented as the mean and error bars represent standard deviation.



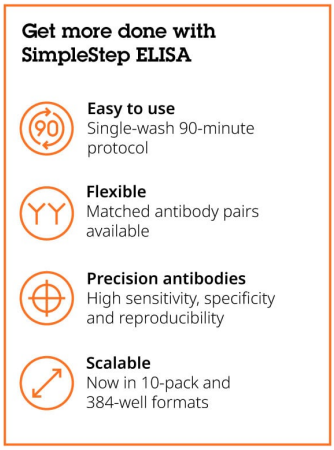
Sandwich ELISA - Human EMMPRIN ELISA Kit (ab219631)

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



Sandwich ELISA - Human EMMPRIN ELISA Kit (ab219631)

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.



Sandwich ELISA - Human EMMPRIN ELISA Kit (ab219631)

To learn more about the advantages of SimpleStep ELISA® kits see **here**.

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