

## Product datasheet

# Human Semaphorin 7A ELISA Kit ab272193

Recombinant **SimpleStep ELISA**

[4 Images](#)

### Overview

**Product name** Human Semaphorin 7A ELISA Kit

**Detection method** Colorimetric

#### Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			2.52%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	3			6.62%

**Sample type** Serum, Hep Plasma, EDTA Plasma, Cit plasma

**Assay type** Sandwich (quantitative)

**Sensitivity** 24.7 pg/ml

**Range** 70.31 pg/ml - 4500 pg/ml

#### Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	107	104% - 112%
Hep Plasma	103	101% - 105%
EDTA Plasma	104	103% - 105%
Cit plasma	117	116% - 119%

**Assay time** 1h 30m

**Assay duration** One step assay

**Species reactivity****Reacts with:** Human**Product overview**

Human Semaphorin 7A ELISA kit (ab272193) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Semaphorin 7A protein in serum and plasma samples. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Semaphorin 7A with 24.7 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**

Semaphorins constitute a large class of soluble and membrane bound proteins that are known to be involved in critical immune responses and serve neuronal functions. Semaphorin 7A, also known as CD108, is a glycosylphosphatidylinositol-anchored semaphorin that promotes axon outgrowth through beta1-integrin receptors and contributes to the formation of the lateral olfactory tract. Promotes attachment, spreading and dendrite outgrowth in melanocytes and plays an important role in modulating inflammation and T-cell mediated immune response. Mouse, rat, cow and monkey share 89, 89%, 86% and 99% sequence homology, respectively.

**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 Semaphorin 7A Capture Antibody	1 x 600µl
10X Human Semaphorin 7A Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 4BI	1 x 6ml
Human Semaphorin 7A Lyophilized Recombinant Protein	2 vials

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

## Function

Plays an important role in integrin-mediated signaling and functions both in regulating cell migration and immune responses. Promotes formation of focal adhesion complexes, activation of the protein kinase PTK2/FAK1 and subsequent phosphorylation of MAPK1 and MAPK3. Promotes production of proinflammatory cytokines by monocytes and macrophages. Plays an important role in modulating inflammation and T-cell-mediated immune responses. Promotes axon growth in the embryonic olfactory bulb. Promotes attachment, spreading and dendrite outgrowth in melanocytes.

## Tissue specificity

Detected in skin keratinocytes and on endothelial cells from skin blood vessels (at protein level). Expressed in fibroblasts, keratinocytes, melanocytes, placenta, testis, ovary, spleen, brain, spinal chord, lung, heart, adrenal gland, lymph nodes, thymus, intestine and kidney.

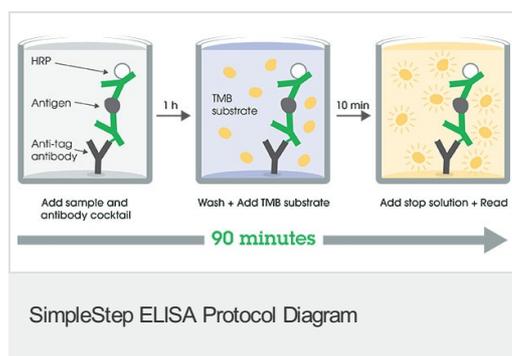
## Sequence similarities

Belongs to the semaphorin family.  
 Contains 1 Ig-like C2-type (immunoglobulin-like) domain.  
 Contains 1 PSI domain.  
 Contains 1 Sema domain.

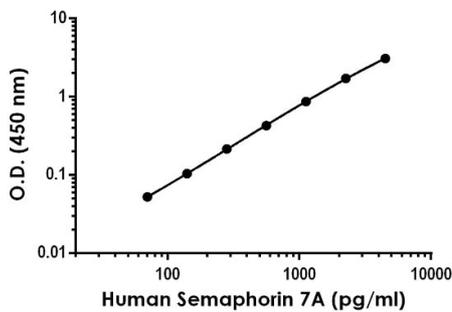
## Cellular localization

Cell membrane. Detected in a punctate pattern on the cell membrane of basal and supra-basal skin keratinocytes.

## Images

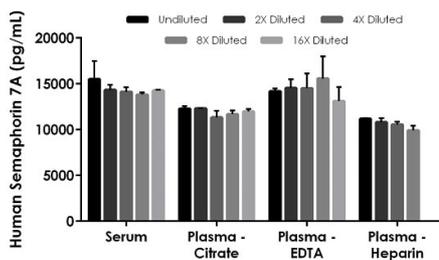


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



Example of human Semaphorin 7A standard curve in Sample Diluent NS.

The Semaphorin 7A 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 Semaphorin 7A in human serum and plasma samples.

The concentrations of Semaphorin 7A were measured in duplicate, interpolated from the Semaphorin 7A standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 10%, plasma (citrate) 10%, plasma (EDTA) 10%, and plasma (heparin) 10%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Semaphorin 7A concentration was determined to be 14,101 pg/mL in serum, 11,909 pg/mL in plasma (citrate) and 14,381 pg/mL in plasma (EDTA), and 10,604 pg/ml in plasma (heparin).

Powered by recombinant antibodies



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

To learn more about the advantages of recombinant antibodies see [here](#).

Sandwich ELISA - Human Semaphorin 7A ELISA Kit (ab272193)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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