

Human SFRP1 ELISA Kit ab277082

Recombinant SimpleStep ELISA

6 Images

Overview

Product name	Human SFRP1 ELISA Kit				
Detection method	Colorimetric				
Precision	Intra-assay				
	Sample	n	Mean	SD	CV%
	Serum	8			4.1%
	Inter-assay				
	Sample	n	Mean	SD	CV%
	Serum	3			4%
Sample type	Serum, Cell culture media, Hep Plasma				
Assay type	Sandwich (quantitative)				
Sensitivity	18.5 pg/ml				
Range	54.69 pg/ml - 3500 pg/ml				
Recovery	Sample specific recovery				
	Sample type		Average %		Range
	Serum		87		80% - 98%
	Cell culture media		96		92% - 102%
	Hep Plasma		86		85% - 87%
Assay time	1h 30m				
Assay duration	One step assay				
Species reactivity	Reacts with: Human				
Product overview	Human SFRP1 ELISA kit (ab277082) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Human SFRP1 protein in human serum and plasma - heparin. It uses				

our proprietary SimpleStep ELISA® technology. Quantitate Human SFRP1 with 18.5 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

Soluble frizzled-related protein 1 (SFRP1) is part of a family of SFRPs that function as modulators of Wnt signaling through direct interaction with Wnts. SFRPs have a role in regulating cell growth and differentiation in specific cell types. SFRP1 decreases intracellular beta-catenin levels, has antiproliferative effects on vascular cells and can induce in vivo, an angiogenic response. In vascular cell cycle, SFRP1 delays the G1 phase and entry into the S phase. In kidney development, it inhibits tubule formation and bud growth in metanephroi. Additionally, it inhibits WNT1/WNT4-mediated TCF-dependent transcription. SFRP1 shares 96.8%, 95.8%, 97.8%, and 98.2% sequence homology with mouse, rat, dog, and bovine, 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	10 x 96 tests	1 x 384 tests
10X Human Human SFRP1 Capture Antibody	1 x 600µl	1 x 6000µl	1 x 600µl
10X Human Human SFRP1 Detector Antibody	1 x 600µl	1 x 6000µl	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 200ml	1 x 20ml
384 well CaptSure™ microplates	0 x 0 unit	0 x 0 unit	1 unit
Antibody Diluent 5BI	1 x 6ml	10 x 6ml	1 x 6ml
Human Human SFRP1 Lyophilized Recombinant Protein	2 vials	2 x 10 vials	2 vials
Plate Seals	1 unit	1 x 10 units	1 unit
Sample Diluent NS (ab193972)	1 x 50ml	2 x 250ml	1 x 50ml

Components	1 x 96 tests	10 x 96 tests	1 x 384 tests
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit	1 x 10 units	0 x 0 unit
Stop Solution	1 x 12ml	1 x 120ml	2 x 12ml
TMB Development Solution	1 x 12ml	1 x 120ml	2 x 12ml

## Function

Soluble frizzled-related proteins (sFRPS) function as modulators of Wnt signaling through direct interaction with Wnts. They have a role in regulating cell growth and differentiation in specific cell types. SFRP1 decreases intracellular beta-catenin levels (By similarity). Has antiproliferative effects on vascular cells, in vitro and in vivo, and can induce, in vivo, an angiogenic response. In vascular cell cycle, delays the G1 phase and entry into the S phase (By similarity). In kidney development, inhibits tubule formation and bud growth in metanephroi (By similarity). Inhibits WNT1/WNT4-mediated TCF-dependent transcription.

## Tissue specificity

Widely expressed. Absent from lung, liver and peripheral blood leukocytes. Highest levels in heart and fetal kidney. Also expressed in testis, ovary, fetal brain and lung, leiomyoma cells, myometrial cells and vascular smooth muscle cells. Expressed in foreskin fibroblasts and in keratinocytes.

## Sequence similarities

Belongs to the secreted frizzled-related protein (sFRP) family.

Contains 1 FZ (frizzled) domain.

Contains 1 NTR domain.

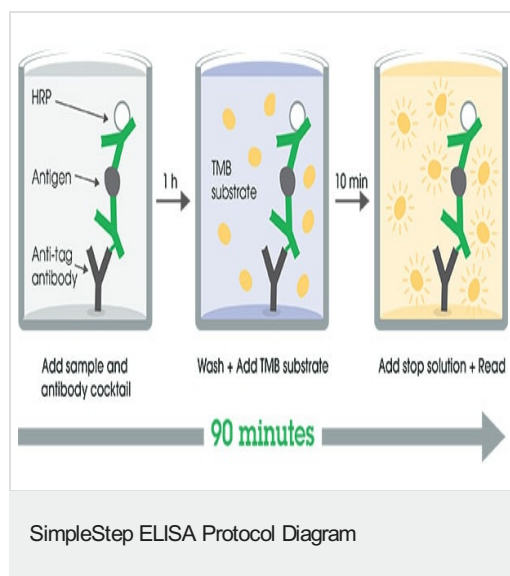
## Domain

The FZ domain is involved in binding with Wnt ligands.

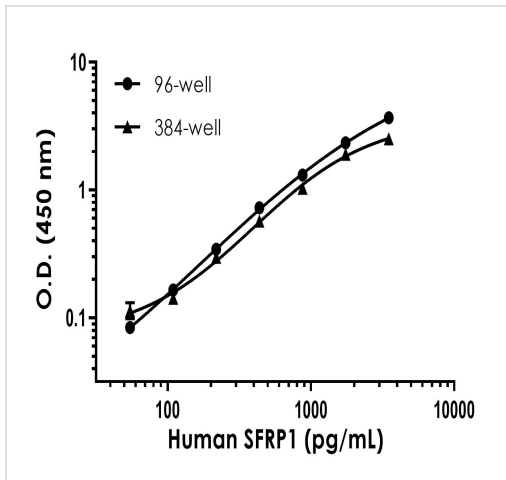
## Cellular localization

Secreted. Cell membrane or extracellular matrix-associated. Released by heparin-binding.

## Images

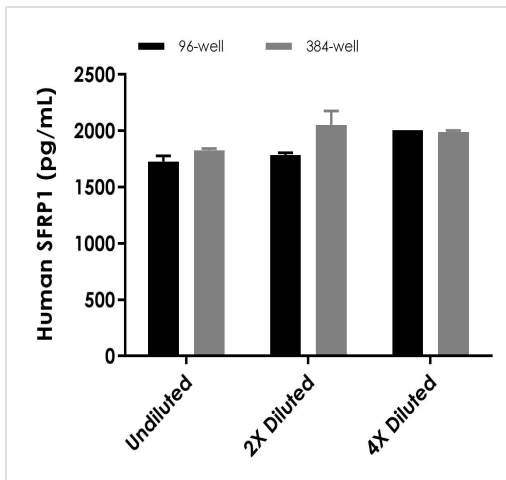


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



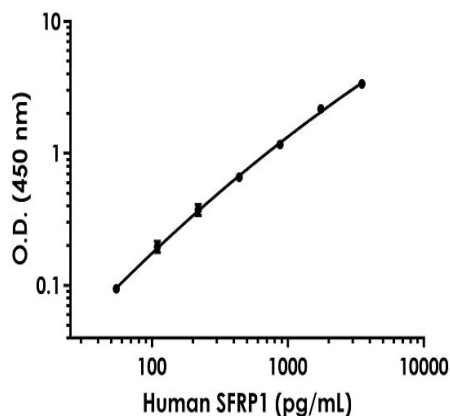
Example of human SFRP1 standard curve in 96-well vs. 384-well plate. Background-subtracted data values (mean  $\pm$  SD) are graphed.

Example of human SFRP1 standard curve in Sample Diluent NS in 96-well vs. 384-well plate.



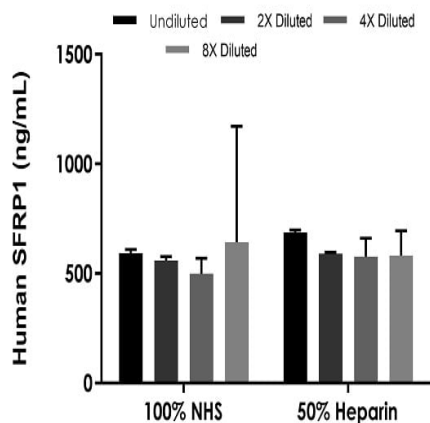
Interpolated concentration of native SFRP1 was measured in duplicate at different sample concentrations in 96-well vs. 384-well plates. Undiluted samples are 50% spiked cell culture media (human SFRP1 spiked into RPMI media containing 10% FBS). The interpolated dilution factor corrected values are plotted (mean  $\pm$  SD,  $n=2$ ). Sample dilutions are made in Sample Diluent NS.

Interpolated concentrations of human SFRP1 spiked into 50% cell culture media in 96-well vs. 384-well plates.



Example of human SFRP1 standard curve in Sample Diluent NS.

The SFRP1 standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean  $\pm$  SD) are graphed.



Interpolated concentrations of native SFRP1 in human serum and plasma samples.

The concentrations of SFRP1 were measured in duplicates, interpolated from the SFRP1 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 100%, plasma (heparin) 50%. The interpolated dilution factor corrected values are plotted (mean  $\pm$  SD,  $n=2$ ). The mean SFRP1 concentration was determined to be 287 pg/mL in serum and 487 pg/mL in plasma (heparin).

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Sandwich ELISA - Human SFRP1 ELISA Kit

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

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

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