ab314389 – Human SDF1 beta ELISA Kit

For the quantitative measurement of SDF1 beta in human serum, plasma (human SDF1 beta concentration is low in normal serum/plasma and may not be detectable in this assay), and cell culture supernatants.

For research use only - not intended for diagnostic use.

For overview, typical data and additional information please visit:
http://www.abcam.com/ab314389

Storage and Stability:

The entire kit may be stored at -20°C for up to 1 year from the date of shipment. Avoid repeated freeze-thaw cycles. The kit may be stored at 4°C for up to 6 months. For extended storage, it is recommended to store at -80°C. For prepared reagent storage, see table below.

Materials Supplied

Item	Quantity	Storage Condition
500X HRP-Streptavidin	200 µl	-20°C
20X Wash Buffer	25 mL	-20°C
5X Assay Diluent B (Item E)	15 mL	-20°C
Assay Diluent C (Item L)	30 mL	-20°C
Assay Diluent A (Item D)	30 mL	-20°C
Stop Solution; 0.2M Sulfuric Acid	8 mL	-20°C
TMB One-Step Substrate Reagent	12 mL	-20°C
Human SDF1 beta Antibody-coated ELISA Plate	1 unit	-20°C
Biotinylated Human SDF1 beta Detection Antibody	2 vials	-20°C
Lyophilized Human SDF1 beta Protein Standard	2 vials	-20°C

Materials Required, Not Supplied

These materials are not included in the kit, but will be required to successfully utilize this assay:

- Microplate reader capable of measuring absorbance at 450 nm.
- Precision pipettes to deliver 2 µl to 1 ml volumes.
- Adjustable 1-25 ml pipettes for reagent preparation.
- 100 ml and 1 liter graduated cylinders.
- Absorbent paper.
- Distilled or deionized water.
- Log-log graph paper or computer and software for ELISA data analysis.
- Tubes to prepare standard or sample dilutions.

Reagent Preparation

- Equilibrate all reagents to room temperature (18-25°C) prior to use. The kit contains enough reagents for 96 wells.
- Prepare only as much reagent as is needed on the day of the experiment.

5X Assay Diluent: Dilute 5X Assay Diluent B (Item E) 5-fold with deionized or distilled water before use. Assay Diluent A (Item D) should be used for dilution of serum and plasma samples. Assay Diluent C (Item L) should be used to dilute cell culture supernatant samples. The suggested dilution for normal serum/plasma is 2-fold.
Note: Levels of SDF1 may vary between different samples. Optimal dilution factors for each sample must be determined by the investigator.

Biotinylated Human SDF1 beta Detection Antibody: Briefly spin the vial before use. Add 100 µL of 1X Assay Diluent B (Item E) into the vial to prepare a detection antibody concentrate. Pipette up and down to mix gently (the concentrate can be stored at 4°C for 5 days). The detection antibody concentrate should be diluted 80-fold with 1X Assay Diluent B (Item E).

20X Wash Buffer: If the 20X Wash Buffer contains visible crystals, warm to room temperature and mix gently until dissolved. Dilute 20 mL of Wash Buffer Concentrate into deionized or distilled water to yield 400 mL of 1X Wash Buffer.

HRP-Streptavidin Concentrate: Briefly spin the vial of 500X HRP-Streptavidin concentrate before use. HRP-Streptavidin should be diluted 500-fold with 1X Assay Diluent B (Item E).

For example: Briefly spin the vial and pipette up and down to mix gently. Add 20 µL of HRP-Streptavidin concentrate into a tube with 10 mL 1X Assay Diluent B (Item E) to prepare a 500-fold diluted HRP-Streptavidin solution (don't store the diluted solution for next day use). Mix well.

Standard Preparation

Always prepare a fresh set of standards for every use.
Discard working standard dilutions after use as they do not store well.
The following section describes the preparation of a standard curve for duplicate measurements (recommended).

- Briefly spin the Lyophilized Human SDF1 beta Protein Standard vial.
- Add 400 µl Assay Diluent A (for serum/plasma samples) or Assay Diluent C (for cell culture supernatants) into the Lyophilized Human SDF1 Protein Standard vial to prepare a 50000 pg/ml standard solution. Gently mix the powder to allow it to dissolve thoroughly.
- Add 80 µl of the SDF1 beta standard solution (50 ng/ml) from the vial of Lyophilized Human SDF1 Protein Standard, into a tube with 420 µl Assay Diluent A (Item D) or Assay Diluent C (tem L) to prepare 8000 pg/ml standard solution.
- Pipette 300 µl Assay Diluent A (Item D) or Assay Diluent C (Item L) into each tube.
- Use the 8000 pg/ml Standard solution to produce a dilution series (shown below). Adding 200 µL from Tube #1 to #2, then from #2 to #3, etc
- Mix each tube thoroughly before the next transfer.
- Tube #8 contains no protein and is the Blank control.

Tube #	Volume to dilute	Volume of 1X Assay Diluent	Final Concentration pg/mL
1	8000 pg/ml standard stock solution	---	8000
2	200 µL of tube #1	300 µL	3200
3	200 µL of tube #2	300 µL	1280
4	200 µL of tube #3	300 µL	512
5	200 µL of tube #4	300 µL	204.8
6	200 µL of tube #5	300 µL	81.92
7	200 µL of tube #6	300 µL	32.77
8	--	300 µL	0

Assay Procedure

Equilibrate all materials and prepared reagents to room temperature prior to use. We recommend that you assay all standards, controls and samples in duplicate. Prepare all reagents, working standards, and samples as directed in the previous sections. **Note:** 1X Assay Diluent should be used for dilution of serum, plasma, and cell culture supernatant samples. The suggested dilution for normal serum/plasma is 2-fold.

1. Label removable 8-well strips as appropriate for your experiment.

2. Add 100 µl of each standard and sample into appropriate wells. Cover wells and incubate for 2.5 hours at room temperature with gentle shaking.

3. Discard the solution and wash 4 times with 1X Wash Solution. Wash by filling each well with Wash Buffer (300 µl) using a multi-channel Pipette or auto washer. Complete removal of liquid at each step is essential to good performance. After the last wash, remove any remaining Wash Buffer by aspirating or decanting. Invert the plate and blot it against clean paper towels.

4. Add 100 µl of 1X prepared biotinylated antibody to each well. Incubate for 1 hour at room temperature with gentle shaking.

5. Discard the solution. Repeat the wash as in step 3.

6. Add 100 µl of prepared Streptavidin solution to each well. Incubate for 45 minutes at room temperature with gentle shaking.

7. Discard the solution. Repeat the wash as in step 3.

8. Add 100 µL of TMB Substrate Reagent to each well. Incubate for 30 minutes at room temperature in the dark with gentle shaking.

9. Add 50 µL of Stop Solution to each well. Read at 450 nm immediately.

Calculation of results

Calculate the mean absorbance for each set of duplicate standards, controls and samples, and subtract the average zero standard optical density. Plot the standard curve on log-log graph paper or using Sigma plot software, with standard concentration on the x-axis and absorbance on the y-axis. Draw the best-fit straight line through the standard points.

Download our ELISA guide for technical hints, results, calculation, and troubleshooting tips: www.abcam.com/protocols/the-complete-elisa-guide

For technical support contact information, visit: www.abcam.com/contactus

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