abcam

Product datasheet

Human Caveolin-2 ELISA Kit (CAV2) ab270881

Recombinant SimpleStep ELISA

4 Images

Overview

Product name Human Caveolin-2 ELISA Kit (CAV2)

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Extract	8			4%

Sample type Tissue Extracts, Cell Lysate

Assay type Sandwich (quantitative)

Sensitivity 38.91 pg/ml

Range 78.13 pg/ml - 5000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Tissue Extracts	115	% - %
Cell Lysate	102	% - %

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Human

Product overview Human Caveolin-2 ELISA kit (ab270881) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Caveolin-2 protein in human cell and tissue samples. It uses our proprietary SimpleStep ELISA® technology. Quantitate human Caveolin-2 with 38.91 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 SimpeStep ELISA® kits.

Notes

Caveolin-2 is a scaffolding protein found in the inner surface of caveolae. CAV-2 and CAV-1 form a hetero-oligomeric complex involved in signal transduction, apoptosis, cell growth and lipid metabolism. CAV-2 and CAV-1 expression in breast cancer is associated with basal-like and triple-negative immunophenotype.

Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties

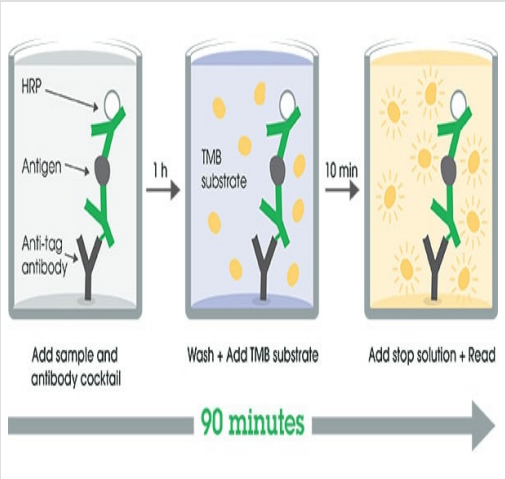
Storage instructions

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

Components	1 x 96 tests
10X Human Caveolin-2 (CAV2) Capture Antibody	1 x 600µl
10X Human Caveolin-2 (CAV2) Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent 4BR	1 x 6ml
Human Caveolin-2 (CAV2) Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 12ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

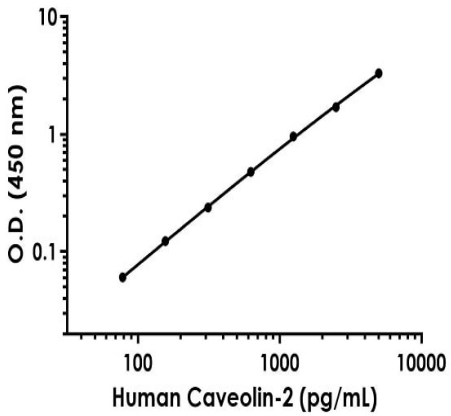
Function	May act as a scaffolding protein within caveolar membranes. Interacts directly with G-protein alpha subunits and can functionally regulate their activity. Acts as an accessory protein in conjunction with CAV1 in targeting to lipid rafts and driving caveolae formation. The Ser-36 phosphorylated form has a role in modulating mitosis in endothelial cells. Positive regulator of cellular mitogenesis of the MAPK signaling pathway. Required for the insulin-stimulated nuclear translocation and activation of MAPK1 and STAT3, and the subsequent regulation of cell cycle progression.
Tissue specificity	Expressed in endothelial cells, smooth muscle cells, skeletal myoblasts and fibroblasts.
Sequence similarities	Belongs to the caveolin family.
Post-translational modifications	Phosphorylated on serine and tyrosine residues. CAV1 promotes phosphorylation on Ser-23 which then targets the complex to the plasma membrane, lipid rafts and caveolae. Phosphorylation on Ser-36 appears to modulate mitosis in endothelial cells (By similarity). Phosphorylation on both Tyr-19 and Tyr-27 is required for insulin-induced 'Ser-727' phosphorylation of STAT3 and its activation. Phosphorylation on Tyr-19 is required for insulin-induced phosphorylation of MAPK1 and DNA binding of STAT3. Tyrosine phosphorylation is induced by both EGF and insulin.
Cellular localization	Nucleus. Cytoplasm. Golgi apparatus membrane. Cell membrane. Membrane > caveola. Potential hairpin-like structure in the membrane. Membrane protein of caveolae. Tyr-19-phosphorylated form is enriched at sites of cell-cell contact and is translocated to the nucleus in complex with MAPK1 in response to insulin (By similarity). Tyr-27-phosphorylated form is located both in the cytoplasm and plasma membrane. CAV1-mediated Ser-23-phosphorylated form locates to the plasma membrane. Ser-36-phosphorylated form resides in intracellular compartments.

Images



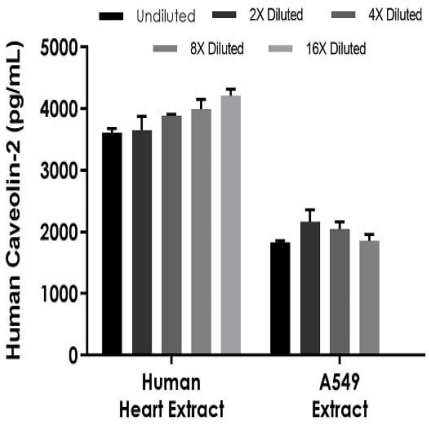
SimpleStep ELISA Protocol Diagram

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.



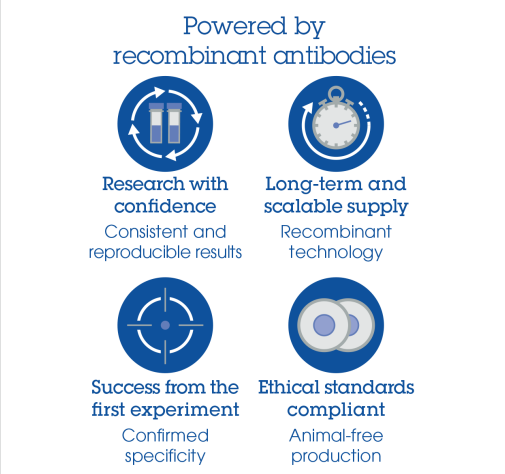
Example of human Caveolin-2 standard curve in 1X Cell Extraction Buffer PTR.

The Caveolin-2 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 Caveolin-2 in human A549 and heart tissue homogenate extract based on a 500 µg/mL and 250 µg/mL extract loads, respectively.

The concentrations of Caveolin-2 were measured in duplicate and interpolated from the Caveolin-2 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Caveolin-2 concentration was determined to be 1,974.86 pg/mL in A549 extract and 3,873.07 pg/mL in heart homogenate extract.



Sandwich ELISA - Human Caveolin-2 ELISA Kit (CAV2) (ab270881)

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

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