abcam

Product datasheet

Mouse CD31 ELISA Kit (PECAM1) ab204527

Recombinant SimpleStep ELISA

6 Images

Overview

Product name Mouse CD31 ELISA Kit (PECAM1)

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Overall	6			9.52%

Inter-assay

Sample	n	Mean	SD	CV%
Overall	3			7.25%

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

Assay type Sandwich (quantitative)

Sensitivity 16.4 pg/ml

Range 125 pg/ml - 8000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	84	77% - 87%
Cell culture media	85	74% - 92%
Hep Plasma	85	77% - 90%
EDTA Plasma	85	84% - 86%
Cit plasma	92	89% - 94%

Assay time 1h 30m

Assay duration One step assay

Species reactivity

Reacts with: Mouse

Product overview

Mouse CD31 ELISA Kit (PECAM1) (ab204527) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of CD31 (PECAM1) protein in cell culture supernatant, serum, cit plasma, edta plasma, and hep plasma. It uses our proprietary SimpleStep ELISA® technology. Quantitate Mouse CD31 (PECAM1) with 16.4 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

CD31 is a cell adhesion molecule, and a member of the immunoglobulin (Ig) superfamily that is expressed on the surface of circulating platelets, monocytes, neutrophils, and particular T-cell subsets. It is a major constituent of the endothelial cell intercellular junction, and is implicated in transendothelial migration of leukocytes, angiogenesis, and integrin activation. CD31 also prevents phagocyte ingestion of closely apposed viable cells by transmitting 'detachment' signals, and changes function on apoptosis, promoting tethering of dying cells to phagocytes.

Platform

Microplate (12 x 8 well strips)

Properties

Storage instructions

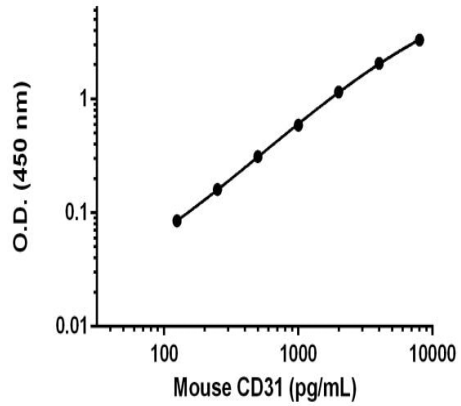
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Mouse CD31 Capture Antibody	1 x 600µl
10X Mouse CD31 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent CPI2	1 x 6ml
Mouse CD31 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit

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

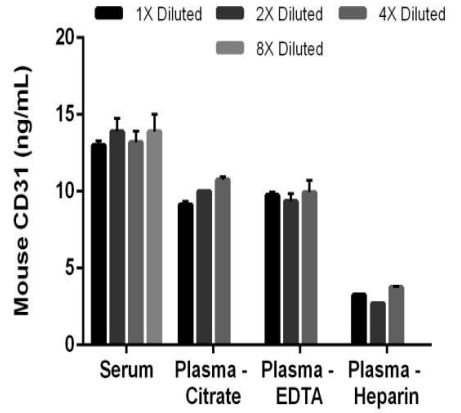
Function	Induces susceptibility to atherosclerosis (By similarity). Cell adhesion molecule which is required for leukocyte transendothelial migration (TEM) under most inflammatory conditions. Tyr-690 plays a critical role in TEM and is required for efficient trafficking of PECAM1 to and from the lateral border recycling compartment (LBRC) and is also essential for the LBRC membrane to be targeted around migrating leukocytes. Prevents phagocyte ingestion of closely apposed viable cells by transmitting 'detachment' signals, and changes function on apoptosis, promoting tethering of dying cells to phagocytes (the encounter of a viable cell with a phagocyte via the homophilic interaction of PECAM1 on both cell surfaces leads to the viable cell's active repulsion from the phagocyte. During apoptosis, the inside-out signaling of PECAM1 is somehow disabled so that the apoptotic cell does not actively reject the phagocyte anymore. The lack of this repulsion signal together with the interaction of the eat-me signals and their respective receptors causes the attachment of the apoptotic cell to the phagocyte, thus triggering the process of engulfment). Isoform Delta15 is unable to protect against apoptosis. Modulates BDKRB2 activation. Regulates bradykinin- and hyperosmotic shock-induced ERK1/2 activation in human umbilical cord vein cells (HUVEC).
Tissue specificity	Expressed on platelets and leukocytes and is primarily concentrated at the borders between endothelial cells. Isoform Long predominates in all tissues examined. Isoform Delta12 is detected only in trachea. Isoform Delta14-15 is only detected in lung. Isoform Delta14 is detected in all tissues examined with the strongest expression in heart. Isoform Delta15 is expressed in brain, testis, ovary, cell surface of platelets, human umbilical vein endothelial cells (HUVECs), Jurkat T-cell leukemia, human erythroleukemia (HEL) and U937 histiocytic lymphoma cell lines (at protein level).
Sequence similarities	Contains 6 Ig-like C2-type (immunoglobulin-like) domains.
Domain	The Ig-like C2-type domains 2 and 3 contribute to formation of the complex with BDKRB2 and in regulation of its activity.
Post-translational modifications	Phosphorylated on Ser and Tyr residues after cellular activation. In endothelial cells Fyn mediates mechanical-force (stretch or pull) induced tyrosine phosphorylation.
Cellular localization	Membrane. Cell junction. Localizes to the lateral border recycling compartment (LBRC) and recycles from the LBRC to the junction in resting endothelial cells and Cell junction. Localizes to the lateral border recycling compartment (LBRC) and recycles from the LBRC to the junction in resting endothelial cells.

Images



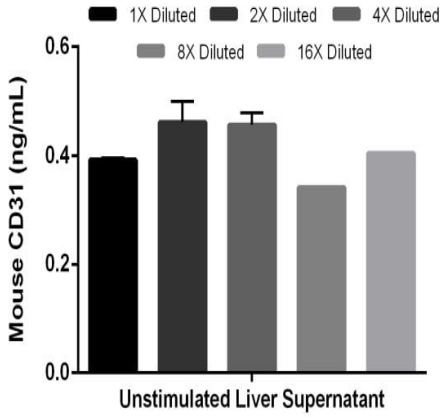
Example of CD31 standard curve.

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



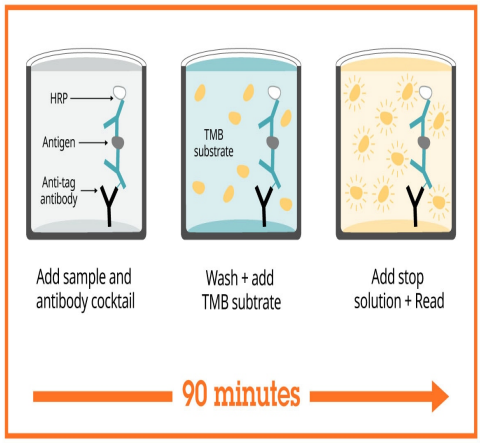
Titration of mouse serum, citrate plasma, heparin plasma, and EDTA plasma within the working range of the assay.

The 1X dilution was 6.25% for the mouse serum and plasma citrate, 3.13% for plasma EDTA, and 100% for plasma heparin.
Interpolated data values (mean +/- SD, n = 2) are graphed.



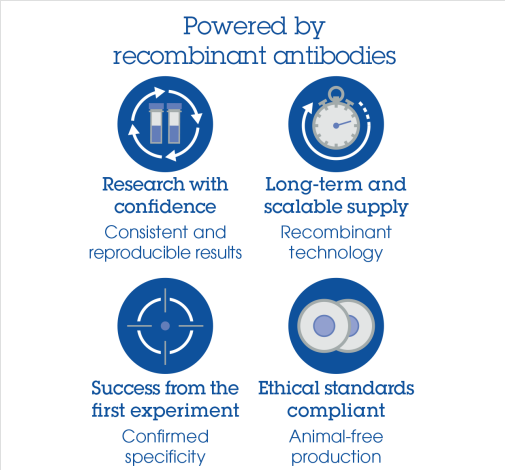
Titration of mouse unstimulated (-) liver supernatant.

A blank cell culture media control was also analyzed, and was negative. The 1X dilution was 50%. Interpolated data values (mean +/- SD, n = 2) are graphed.



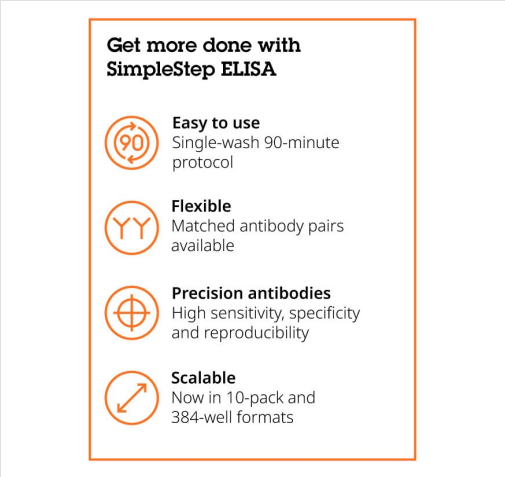
Sandwich ELISA - Mouse CD31 ELISA Kit (PECAM1) (ab204527)

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 - Mouse CD31 ELISA Kit (PECAM1) (ab204527)

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



Sandwich ELISA - Mouse CD31 ELISA Kit (PECAM1) (ab204527)

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

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