

Product datasheet

Mouse IL-33 ELISA Kit ab213475

SimpleStep ELISA

[6 Images](#)

Overview

Product name Mouse IL-33 ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Mouse serum	5			5.9%

Inter-assay

Sample	n	Mean	SD	CV%
Mouse serum	3			12.4%

Sample type

Cell culture supernatant, Serum, Heparin Plasma, EDTA Plasma, Citrate Plasma

Assay type

Sandwich (quantitative)

Sensitivity

5.3 pg/ml

Range

31.3 pg/ml - 2000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	108	107% - 109%
Serum	119	114% - 122%
Heparin Plasma	113	108% - 118%
EDTA Plasma	115	110% - 118%
Citrate Plasma	118	114% - 127%

Assay time

1h 30m

Assay duration	One step assay
Species reactivity	Reacts with: Mouse, Rat
Product overview	<p>IL-33 <i>in vitro</i> SimpleStep ELISA[®] (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of IL-33 protein in mouse serum, plasma, and cell culture supernatant.</p> <p>The SimpleStep ELISA[®] employs an affinity tag labeled capture antibody and a reporter conjugated detector antibody which immunocapture the sample analyte in solution. This entire complex (capture antibody/analyte/detector antibody) is in turn immobilized via immunoaffinity of an anti-tag antibody coating the well. To perform the assay, samples or standards are added to the wells, followed by the antibody mix. After incubation, the wells are washed to remove unbound material. TMB substrate is added and during incubation is catalyzed by HRP, generating blue coloration. This reaction is then stopped by addition of Stop Solution completing any color change from blue to yellow. Signal is generated proportionally to the amount of bound analyte and the intensity is measured at 450 nm. Optionally, instead of the endpoint reading, development of TMB can be recorded kinetically at 600 nm.</p> <p>Sensitivity: Samples in Sample Diluent NS: 5.3 pg/mL Samples in Sample Diluent 25BS: 12.6 pg/mL</p>
Notes	IL-33 (Interleukin-33, also known as NF-HEV) is a proinflammatory cytokine member of the IL-1 family. It is widely expressed and functions by binding and signalling through the IL1RL1/ST2 receptor. IL-33 is expressed as a pro-protein; the antibodies in this kit were generated using the C-terminal mature form of IL-33.
Tested applications	Suitable for: Sandwich ELISA
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 Mouse IL-33 Capture Antibody	1 x 600µl
10X Mouse IL-33 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 5BR	1 x 6ml
Mouse IL-33 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Sample Diluent NBS	1 x 20ml
Sample Diluent NS (ab193972)	1 x 50ml

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

Function	<p>Cytokine that binds to and signals through the IL1RL1/ST2 receptor which in turn activates NF-kappa-B and MAPK signaling pathways in target cells (PubMed:16286016). Involved in the maturation of Th2 cells inducing the secretion of T-helper type 2-associated cytokines. Also involved in activation of mast cells, basophils, eosinophils and natural killer cells. Acts as a chemoattractant for Th2 cells, and may function as an "alarmin", that amplifies immune responses during tissue injury (PubMed:17853410, PubMed:18836528).</p> <p>In quiescent endothelia the uncleaved form is constitutively and abundantly expressed, and acts as a chromatin-associated nuclear factor with transcriptional repressor properties, it may sequester nuclear NF-kappaB/RELA, lowering expression of its targets (PubMed:21734074). This form is rapidly lost upon angiogenic or proinflammatory activation (PubMed:18787100).</p>
Tissue specificity	Expressed at high level in high endothelial venules found in tonsils, Peyer patches and mesenteric lymph nodes. Almost undetectable in placenta.
Sequence similarities	Belongs to the IL-1 family. Highly divergent.
Domain	The homeodomain-like HTH domain mediates nuclear localization and heterochromatin association.
Post-translational modifications	<p>The full length protein can be released from cells and is able to signal via the IL1RL1/ST2 receptor. However, proteolytic processing by CSTG/cathepsin G and ELANE/neutrophil elastase produces C-terminal peptides that are more active than the unprocessed full length protein. May also be proteolytically processed by calpains (PubMed:19596270). Proteolytic cleavage mediated by apoptotic caspases including CASP3 and CASP7 results in IL33 inactivation (PubMed:19559631). In vitro proteolytic cleavage by CASP1 was reported (PubMed:16286016) but could not be confirmed in vivo (PubMed:19465481) suggesting that IL33 is probably not a direct substrate for that caspase.</p>
Cellular localization	Nucleus. Chromosome. Cytoplasmic vesicle, secretory vesicle. Secreted. Associates with heterochromatin and mitotic chromosomes (PubMed:17185418).

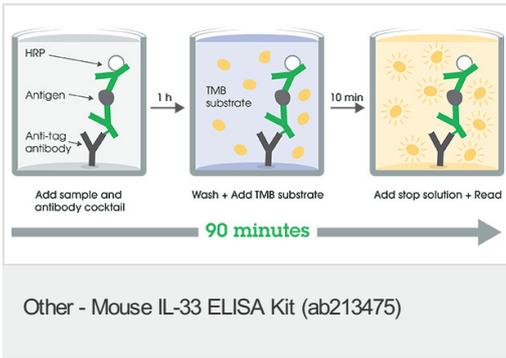
Applications

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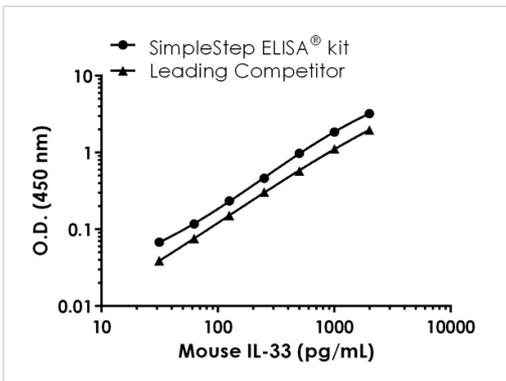
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Sandwich ELISA		Use at an assay dependent concentration.

Images

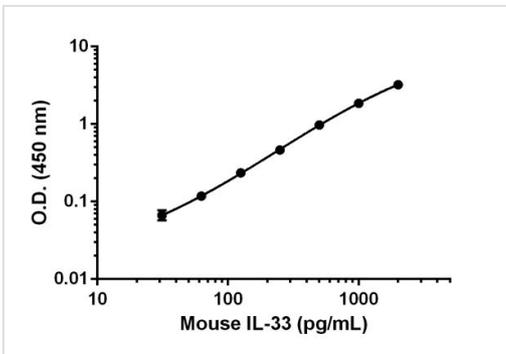


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



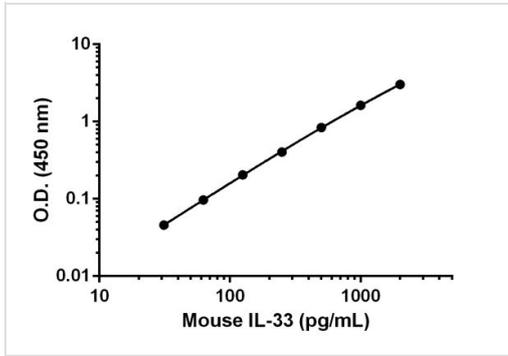
Standard curve comparison between mouse IL-33 SimpleStep ELISA[®] kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows a 2-fold increase in sensitivity.

Mouse IL-33 standard curve comparison data.



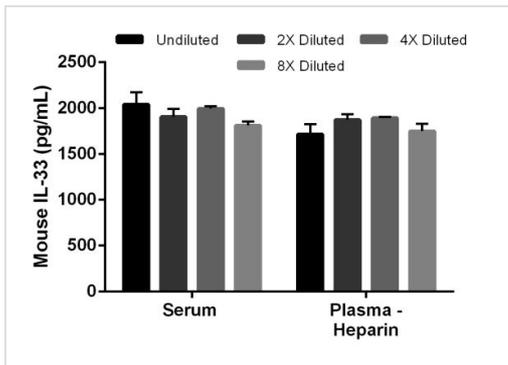
Background-subtracted data values (mean +/- SD) are graphed.

Example mouse IL-33 standard curve in Sample Diluent NS.



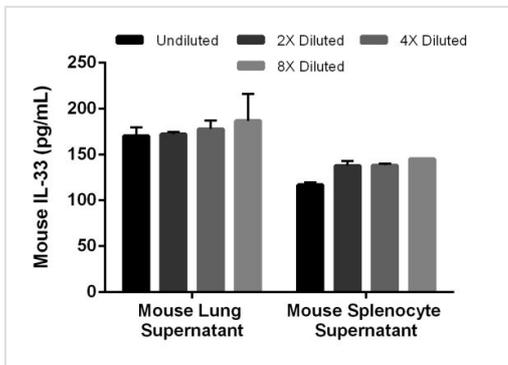
Example mouse IL-33 standard curve in Sample Diluent 25BS.

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



Interpolated concentrations of spike IL-33 in mouse serum and plasma samples.

The concentrations of IL-33 were measured in duplicates, interpolated from the IL-33 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 50% and plasma (heparin) 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).



Interpolated concentrations of native IL-33 in mouse cell culture supernatant samples.

The concentrations of IL-33 were measured in duplicates, interpolated from the IL-33 standard curves and corrected for sample dilution. Undiluted samples are as follows: lung supernatant 50% and splenocyte supernatant 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean IL-33 concentration was determined to be 177 pg/mL in lung supernatant and 131 pg/mL in splenocyte supernatant.

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