

## Recombinant SimpleStep ELISA®

★★★★★ **1 Abreviews**   **1 References**   8 Images

<b>Product name</b>	Mouse IL-33 ELISA Kit
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Detection method	Colorimetric
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## 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%

<b>Sample type</b>	Cell culture supernatant, Serum, Hep Plasma, EDTA Plasma, Cit plasma
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<b>Assay type</b>	Sandwich (quantitative)
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**Sensitivity** 5.3 pg/ml

<b>Range</b>	31.3 pg/ml - 2000 pg/ml
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## Recovery

### Sample specific recovery

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

<b>Assay time</b>	1h 30m
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<b>Assay duration</b>	One step assay
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**Species reactivity****Reacts with:** Mouse**Product overview**

Mouse IL-33 ELISA Kit (ab213475) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of IL-33 protein in cell culture supernatant, serum, cit plasma, edta plasma, and hep plasma. It uses our proprietary SimpleStep ELISA® technology. Quantitate Mouse IL-33 with 5.3 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**

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.

**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 (ab69516)	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

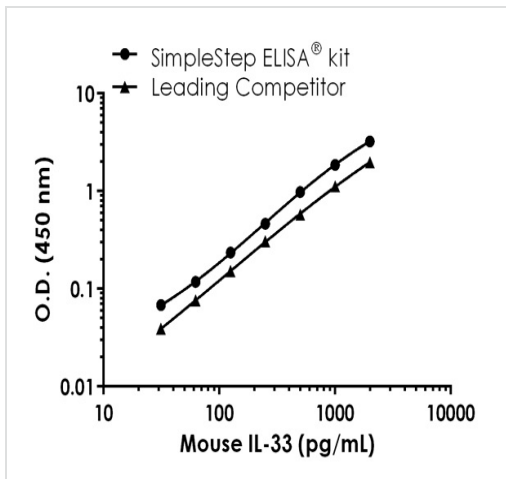
Components	1 x 96 tests
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

<b>Function</b>	<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>
<b>Tissue specificity</b>	Expressed at high level in high endothelial venules found in tonsils, Peyer patches and mesenteric lymph nodes. Almost undetectable in placenta.
<b>Sequence similarities</b>	Belongs to the IL-1 family. Highly divergent.
<b>Domain</b>	The homeodomain-like HTH domain mediates nuclear localization and heterochromatin association.
<b>Post-translational modifications</b>	<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>
<b>Cellular localization</b>	Nucleus. Chromosome. Cytoplasmic vesicle, secretory vesicle. Secreted. Associates with heterochromatin and mitotic chromosomes (PubMed:17185418).

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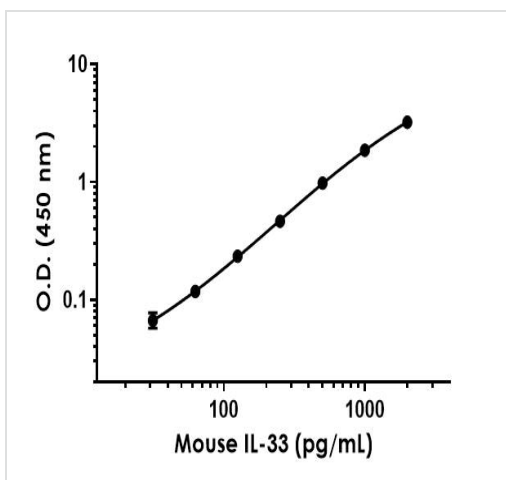
## Images

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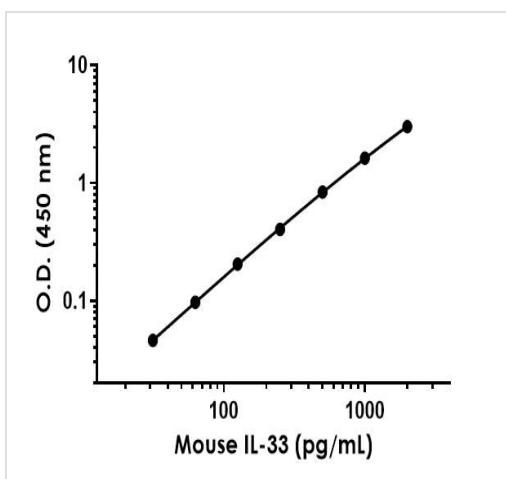
Mouse IL-33 standard curve comparison data.

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



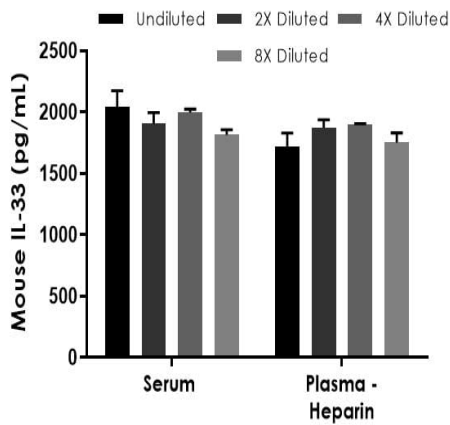
Example mouse IL-33 standard curve in Sample Diluent NS.

Background-subtracted data values (mean  $\pm$  SD) are graphed.



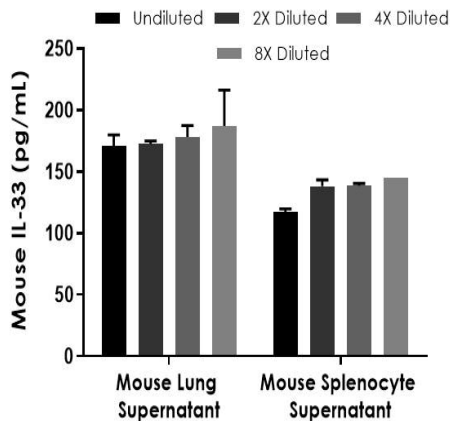
Example mouse IL-33 standard curve in Sample Diluent 25BS.

Background-subtracted data values (mean  $\pm$  SD) are graphed.



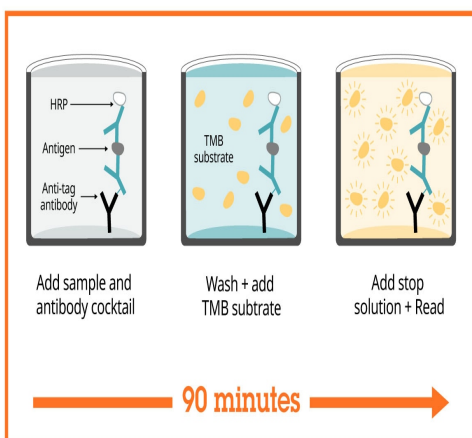
Interpolated concentrations of spike IL-33 in mouse serum and plasma samples.

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  $\pm$  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  $\pm$  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.



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 IL-33 ELISA Kit  
(ab213475)

Powered by  
recombinant antibodies



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Sandwich ELISA - Mouse IL-33 ELISA Kit  
(ab213475)

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

**Get more done with  
SimpleStep ELISA**



**Easy to use**  
Single-wash 90-minute protocol



**Flexible**  
Matched antibody pairs available



**Precision antibodies**  
High sensitivity, specificity and reproducibility



**Scalable**  
Now in 10-pack and 384-well formats

Sandwich ELISA - Mouse IL-33 ELISA Kit  
(ab213475)

To learn more about the advantages of SimpleStep ELISA<sup>®</sup> kits see [here](#).

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

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