abcam

Product datasheet

Mouse RANKL ELISA Kit (TRANCE/TNFSF11) ab269553

Recombinant SimpleStep ELISA

1 References 6 Images

Overview

Product name Mouse RANKL ELISA Kit (TRANCE/TNFSF11)

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			3.94%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	3			3.24%

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

Assay type Sandwich (quantitative)

Sensitivity 1.85 pg/ml

Range 6.25 pg/ml - 400 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	103	102% - 104%
Serum	105	105% - 107%
EDTA Plasma	98	97% - 101%
Cit plasma	97	96% - 100%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Mouse

Product overview

Mouse RANKL ELISA Kit (TRANCE/TNFSF11) (ab269553) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of RANKL (TRANCE/TNFSF11) protein in cell culture supernatant, edta plasma, serum, and cit plasma. It uses our proprietary SimpleStep ELISA® technology. Quantitate Mouse RANKL (TRANCE/TNFSF11) with 1.85 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

Receptor activator of nuclear factor kappa-β ligand (RANKL) is a type II membrane protein and belongs to the tumor necrosis factor superfamily. RANKL is known to interact with TNFRS11B/OPG and TNFRSF11A/RANK which controls fundamental aspects of bone physiology and affects the immune system. Some of the specific functions of RANKL include essential regulator of bone remodeling, lymph node formation, and bone metastasis in cancer. ab269553 kit is developed to recognize extracellular soluble RANKL.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions

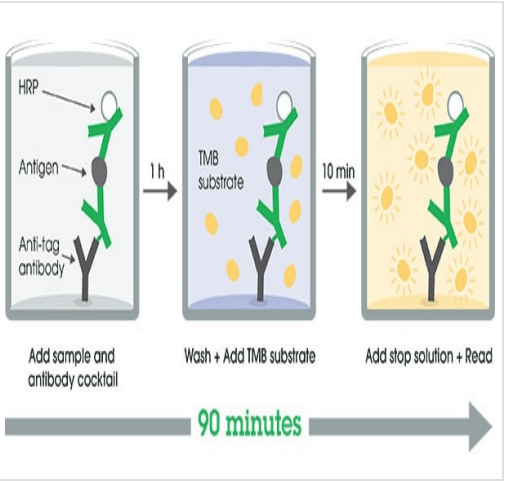
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Mouse RANKL (TRANCE/TNFSF11) Capture Antibody	1 x 600µl
10X Mouse RANKL (TRANCE/TNFSF11) Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 4BR	1 x 6ml
Mouse RANKL (TRANCE/TNFSF11) 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

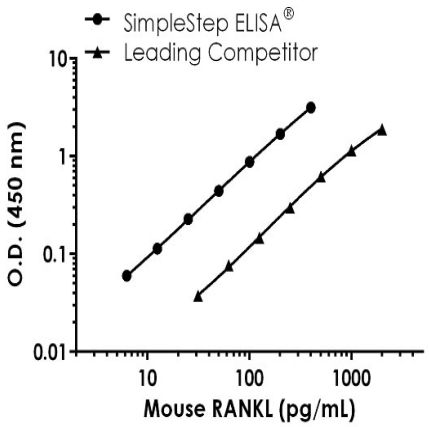
Function	Cytokine that binds to TNFRSF11B/OPG and to TNFRSF11A/RANK. Osteoclast differentiation and activation factor. Augments the ability of dendritic cells to stimulate naive T-cell proliferation. May be an important regulator of interactions between T-cells and dendritic cells and may play a role in the regulation of the T-cell-dependent immune response. May also play an important role in enhanced bone-resorption in humoral hypercalcemia of malignancy.
Tissue specificity	Highest in the peripheral lymph nodes, weak in spleen, peripheral blood Leukocytes, bone marrow, heart, placenta, skeletal muscle, stomach and thyroid.
Involvement in disease	Defects in TNFSF11 are the cause of osteopetrosis autosomal recessive type 2 (OPTB2) [MIM:259710]; also known as osteoclast-poor osteopetrosis. Osteopetrosis is a rare genetic disease characterized by abnormally dense bone, due to defective resorption of immature bone. The disorder occurs in two forms: a severe autosomal recessive form occurring in utero, infancy, or childhood, and a benign autosomal dominant form occurring in adolescence or adulthood. Autosomal recessive osteopetrosis is usually associated with normal or elevated amount of non-functional osteoclasts. OPTB2 is characterized by paucity of osteoclasts, suggesting a molecular defect in osteoclast development.
Sequence similarities	Belongs to the tumor necrosis factor family.
Post-translational modifications	The soluble form of isoform 1 derives from the membrane form by proteolytic processing (By similarity). The cleavage may be catalyzed by ADAM17.
Cellular localization	Cytoplasm; Secreted and Cell membrane.

Images



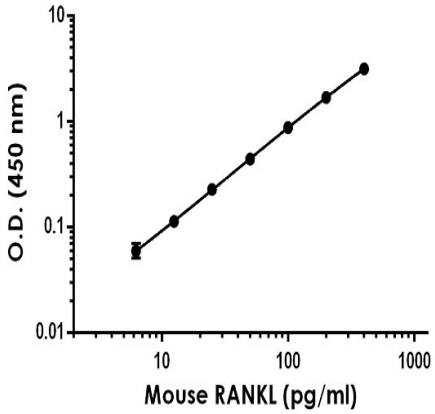
SimpleStep ELISA Protocol Diagram

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.



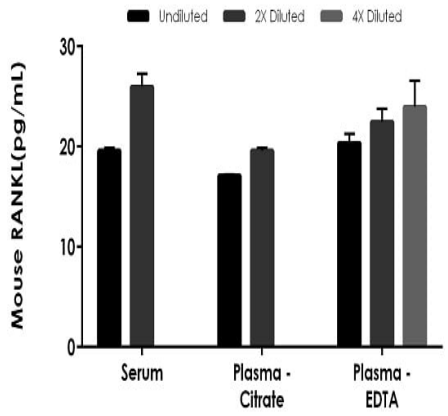
Mouse RANKL standard curve comparison

Standard Curve comparison between Mouse RANKL SimpleStep ELISA kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows increased sensitivity.



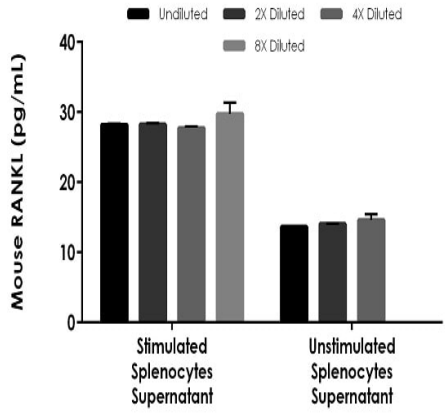
Example of mouse RANKL standard curve in Sample Diluent NS.

The RANKL 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.



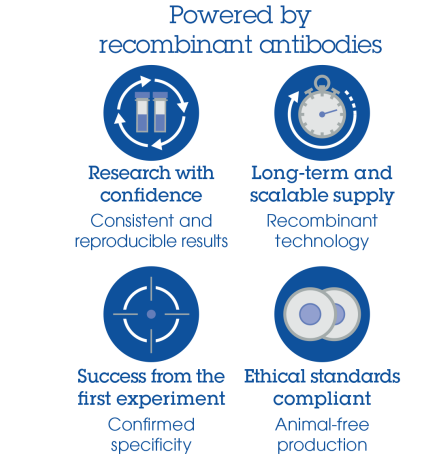
Interpolated concentrations of native RANKL in mouse serum and plasma samples.

The concentrations of RANKL were measured in duplicates, interpolated from the RANKL standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 50%, plasma-citate neat, and plasma-EDTA neat. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean RANKL concentration was determined to be 22.7 pg/mL in serum, and 18.3 pg/mL in plasma-citrate, and 22.3 pg/mL in plasma-EDTA.



Interpolated concentrations of native RANKL in mouse cell culture supernatant samples.

The concentrations of RANKL were measured in duplicates, interpolated from the RANKL standard curves and corrected for sample dilution. Undiluted samples are as follows: neat stimulated splenocytes supernatant and neat unstimulated splenocytes supernatant. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean RANKL concentration was determined to be 28.5 pg/mL in stimulated splenocytes and 14.1 pg/mL in unstimulated splenocytes.



Sandwich ELISA - Mouse RANKL ELISA Kit (TRANCE/TNFSF11) (ab269553)

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

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