

Product datasheet

Rat Osteoprotegerin ELISA Kit (OPG) ab255723

Recombinant SimpleStep ELISA[®]

[2 References](#) [5 Images](#)

Overview

Product name Rat Osteoprotegerin ELISA Kit (OPG)

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			8.6%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	3			3.2%

Sample type Serum, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 30 pg/ml

Range 46.88 pg/ml - 3000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	105	96% - 118%
Hep Plasma	94	90% - 106%
EDTA Plasma	95	92% - 99%
Cit plasma	101	93% - 109%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Rat

Product overview

Rat Osteoprotegerin ELISA Kit (OPG) (ab255723) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Osteoprotegerin (OPG) protein in cit plasma, edta plasma, hep plasma, and serum. It uses our proprietary SimpleStep ELISA® technology. Quantitate Rat Osteoprotegerin (OPG) with 30 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

Osteoprotegerin is a cytokine in the TNF receptor superfamily found primarily cells derived from osteoblasts. Its primary role is in bone metabolism where it inhibits bone resorption. Reduced osteoprotegerin signaling leads is one of the key mechanisms for the development of osteoporosis and is a hallmark of many metastatic bone tumors.

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

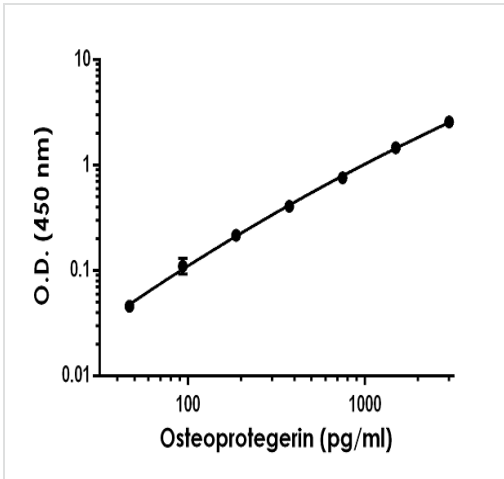
Storage instructions Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Rat Osteoprotegerin (OPG) Capture Antibody	1 x 600µl
10X Rat Osteoprotegerin (OPG) Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent CPI2	1 x 6ml
Plate Seals	1 unit
Rat Osteoprotegerin (OPG) Lyophilized Recombinant Protein	2 vials

Components	1 x 96 tests
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

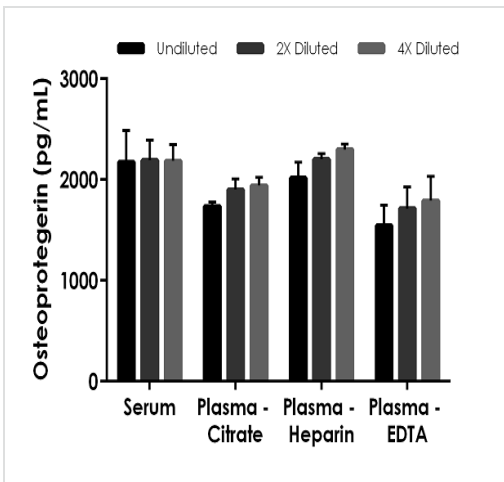
Function	Acts as decoy receptor for RANKL and thereby neutralizes its function in osteoclastogenesis. Inhibits the activation of osteoclasts and promotes osteoclast apoptosis in vitro. Bone homeostasis seems to depend on the local RANKL/OPG ratio. May also play a role in preventing arterial calcification. May act as decoy receptor for TRAIL and protect against apoptosis. TRAIL binding blocks the inhibition of osteoclastogenesis.
Tissue specificity	Highly expressed in adult lung, heart, kidney, liver, spleen, thymus, prostate, ovary, small intestine, thyroid, lymph node, trachea, adrenal gland, testis, and bone marrow. Detected at very low levels in brain, placenta and skeletal muscle. Highly expressed in fetal kidney, liver and lung.
Involvement in disease	Defects in TNFRSF11B are the cause of juvenile Paget disease (JPD) [MIM:239000]; also known as hyperostosis corticalis deformans juvenilis or hereditary hyperphosphatasia or chronic congenital idiopathic hyperphosphatasia. JPD is a rare autosomal recessive osteopathy that presents in infancy or early childhood. The disorder is characterized by rapidly remodeling woven bone, osteopenia, debilitating fractures, and deformities due to a markedly accelerated rate of bone remodeling throughout the skeleton. Approximately 40 cases of JPD have been reported worldwide. Unless it is treated with drugs that block osteoclast-mediated skeletal resorption, the disease can be fatal.
Sequence similarities	Contains 2 death domains. Contains 4 TNFR-Cys repeats.
Post-translational modifications	N-glycosylated. Contains sialic acid residues. The N-terminus is blocked.
Cellular localization	Secreted.

Images



Example of rat Osteoprotegerin standard curve in 1X Cell Extraction Buffer PTR.

The Osteoprotegerin 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 Osteoprotegerin in rat serum and plasma samples.

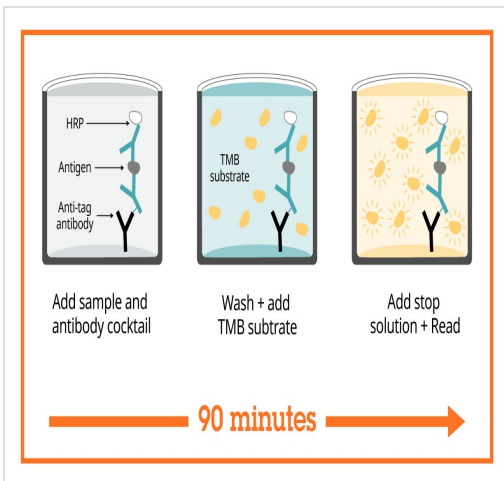
The concentrations of Osteoprotegerin were measured in duplicates, interpolated from the Osteoprotegerin standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 10%, plasma (citrate) 10%, plasma (heparin) 10% and plasma (EDTA) 10%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Osteoprotegerin concentration was determined to be 2216.74 pg/mL in serum, 1852.15 pg/mL in plasma (citrate) and 2107.37 pg/mL in plasma (heparin) and 1619.46 pg/mL in plasma (EDTA).

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 - Rat Osteoprotegerin ELISA Kit (OPG) (ab255723)

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



Sandwich ELISA - Rat Osteoprotegerin ELISA Kit
(OPG) (ab255723)

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.

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 - Rat Osteoprotegerin ELISA Kit
(OPG) (ab255723)

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

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