

Rat TNFR1 ELISA Kit ab231925

Recombinant SimpleStep ELISA

1 References 6 Images

Overview

Product name Rat TNFR1 ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Rat serum	5			2.5%

					Inter-assay
Sample	n	Mean	SD	CV%	
Rat serum	3			7.6%	

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

Assay type Sandwich (quantitative)

Sensitivity 8.1 pg/ml

Range 15.6 pg/ml - 1000 pg/ml

Recovery	Sample specific recovery		
	Sample type	Average %	Range
	Serum	101	95% - 104%
	Hep Plasma	101	97% - 109%
	EDTA Plasma	95	93% - 97%
	Cit plasma	98	96% - 100%

Assay time 1h 30m

Assay duration One step assay

Species reactivity Reacts with: Rat

Product overview

Rat TNFR1 ELISA Kit (ab231925) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of TNFR1 protein in cit plasma, edta plasma, hep plasma, and serum. It uses our proprietary SimpleStep ELISA® technology. Quantitate Rat TNFR1 with 8.1 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

tumor necrosis factor receptor superfamily member 1A (TNF RI) is a transmembrane protein with an extracellular domain that binds to TNF alpha. This extracellular domain can be proteolytically cleaved to make soluble TNF RI. The standard protein in this kit is soluble TNF RI and the capture and detector antibodies were raised against this region of TNF RI.

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 TNFR1 Capture Antibody	1 x 600µl
10X Rat TNFR1 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 4BR	1 x 6ml
Plate Seals	1 unit
Rat TNFR1 Lyophilized Recombinant Protein	2 vials
Sample Diluent NS (ab193972)	1 x 12ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml

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

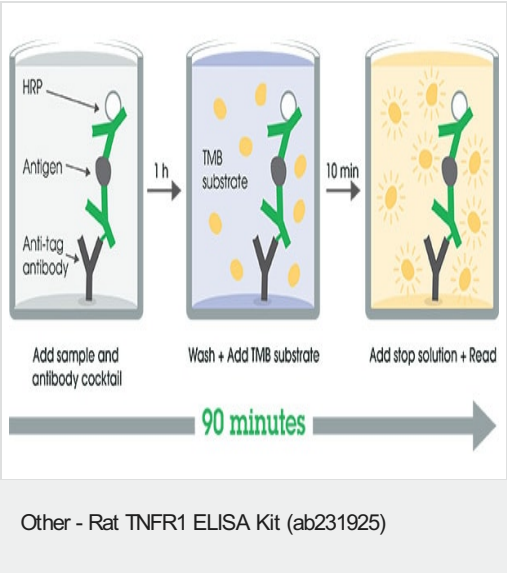
Relevance

TNF RI (CD120a) is a 55 kDa transmembrane glycoprotein that is expressed by virtually all nucleated mammalian cells. Among the numerous cells known to express TNF RI are hepatocytes, monocytes and neutrophils, cardiac muscle cells, endothelial cells, and CD34+ hematopoietic progenitors. Both TNF alpha and TNF beta bind to TNF RI. Soluble TNF alpha binds with a Kda in the range of 20-60 pM, while TNF beta binds with a Kda equal to 650 pM. TNF RI relative to TNF RII seems to be the more physiologically relevant receptor, whereas TNF R2 appears to play a direct role in only a limited number of TNF responses. Soluble TNF RI, which blocks TNF alpha activity, has been identified in both urine and blood (1-3 ng/mL). Serum levels of sTNF receptors increase dramatically in certain pathological situations.

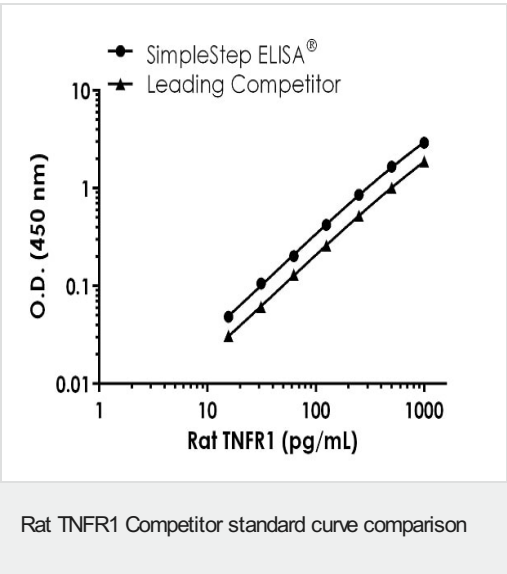
Cellular localization

Cytoplasmic

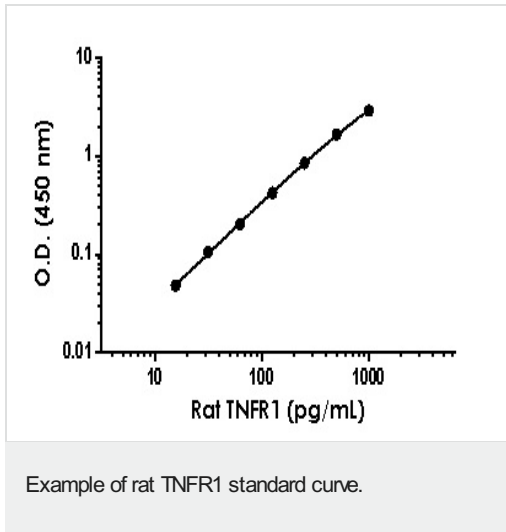
Images



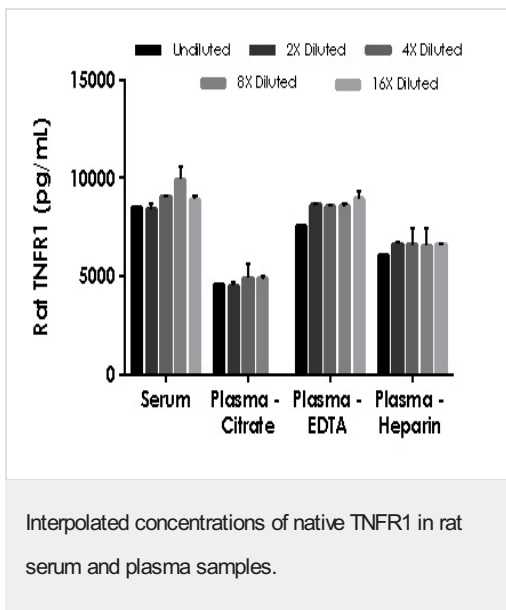
SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



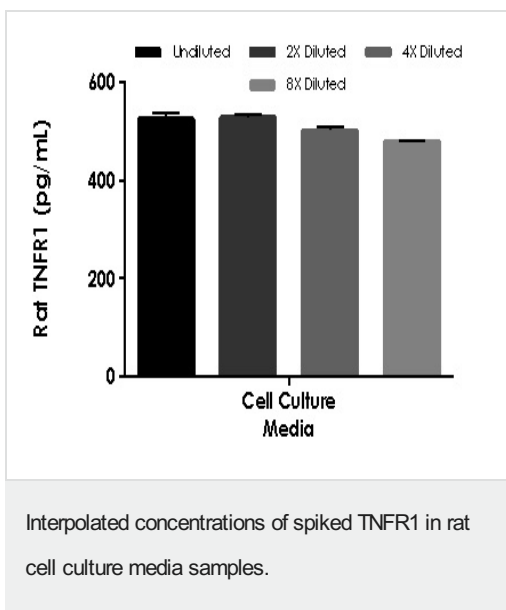
Standard curve comparison between Rat TNFR1 SimpleStep ELISA® kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows comparable sensitivity.



The TNFR1 standard curve was prepared as described in Section 10.



The concentrations of TNFR1 were measured in duplicates, interpolated from the TNFR1 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 6.25%, plasma (citrate) 12.5%, plasma (EDTA) 12.5%, and plasma (heparin) 12.5%. The interpolated dilution factor corrected values are plotted (mean \pm SD, n=2). The mean TNFR1 concentration was determined to be 8,972 pg/mL in serum, 4,723 pg/mL in plasma (citrate), 8468 pg/mL in plasma (EDTA) and 6,505 pg/mL in plasma (heparin).



The concentrations of TNFR1 were measured in duplicates, interpolated from the TNFR1 standard curves and corrected for sample dilution. Undiluted samples are as follows: cell culture media 50%. The interpolated dilution factor corrected values are plotted (mean \pm SD, n=2).

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recombinant antibodies



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Consistent and reproducible results



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Recombinant technology



Success from the first experiment
Confirmed specificity



Ethical standards compliant
Animal-free production

Sandwich ELISA - Rat TNFR1 ELISA Kit (ab231925)

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

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