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Product datasheet

Human Neutrophil Elastase ELISA Kit ab270204

Recombinant SimpleStep ELISA

1 References 6 Images

Overview

Product name Human Neutrophil Elastase ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	4			4.1%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	8			3.2%

Sample type Serum, Cell Lysate, Cell culture media, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 15.8 pg/ml

Range 47 pg/ml - 3000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	112	105% - 120%
Cell culture extracts	116	115% - 117%
Cell culture media	106	103% - 109%
Hep Plasma	108	105% - 113%
EDTA Plasma	111	103% - 118%
Cit plasma	102	100% - 105%

Assay time	1h 30m
Assay duration	One step assay
Species reactivity	**Reacts with:** Human
Product overview	Human Neutrophil Elastase ELISA Kit (ab270204) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Neutrophil Elastase protein in cell culture media, cell lysate, edta plasma, serum, cit plasma, and hep plasma. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Neutrophil Elastase with 15.8 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	Neutrophil Elastase, also known as bone marrow serine protease, Elastase-2, human leukocyte Elastase, and medullasin is a serine protease in the peptidase S1 family and is encoded by the *ELANE* gene. Neutrophil Elastase is expressed as a zymogen by neutrophils and macrophages during inflammation, where it breaks down bacterial and host membrane proteins. Neutrophil Elastase can localize to Neutrophil extracellular traps (NETs) by the protein's affinity for DNA. 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

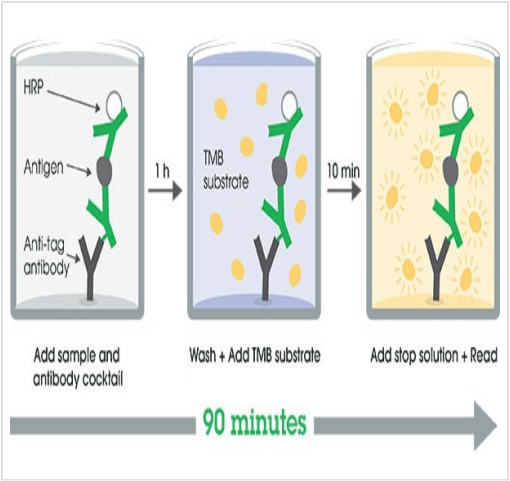
Storage instructions	Store at +4°C. Please refer to protocols.

Components	**1 x 96 tests**
10X Human Neutrophil Elastase Capture Antibody	1 x 600µl
10X Human Neutrophil Elastase Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml

Components	1 x 96 tests
Antibody Diluent 4BI	1 x 6ml
Human Neutrophil Elastase Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent 25BS	1 x 20ml
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

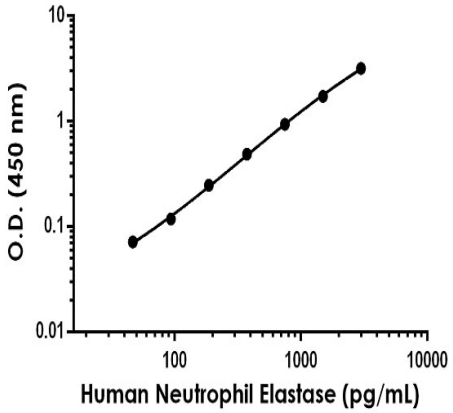
Function	Modifies the functions of natural killer cells, monocytes and granulocytes. Inhibits C5a-dependent neutrophil enzyme release and chemotaxis.
Tissue specificity	Bone marrow cells.
Involvement in disease	Defects in ELANE are a cause of cyclic haematopoiesis (CH) [MIM:162800]; also known as cyclic neutropenia. CH is an autosomal dominant disease in which blood-cell production from the bone marrow oscillates with 21-day periodicity. Circulating neutrophils vary between almost normal numbers and zero. During intervals of neutropenia, affected individuals are at risk for opportunistic infection. Monocytes, platelets, lymphocytes and reticulocytes also cycle with the same frequency. Defects in ELANE are the cause of neutropenia severe congenital autosomal dominant type 1 (SCN1) [MIM:202700]. SCN1 is a disorder of hematopoiesis characterized by a maturation arrest of granulopoiesis at the level of promyelocytes with peripheral blood absolute neutrophil counts below 0.5 x 10(9)/l and early onset of severe bacterial infections.
Sequence similarities	Belongs to the peptidase S1 family. Elastase subfamily. Contains 1 peptidase S1 domain.

Images



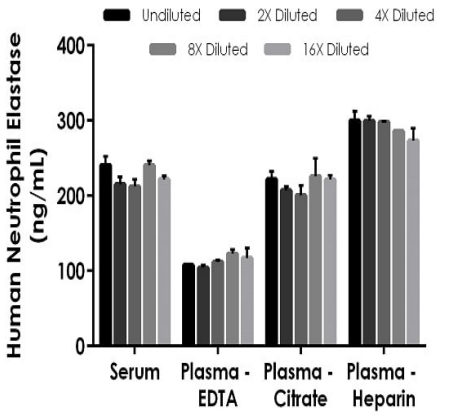
SimpleStep ELISA Protocol Diagram

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.



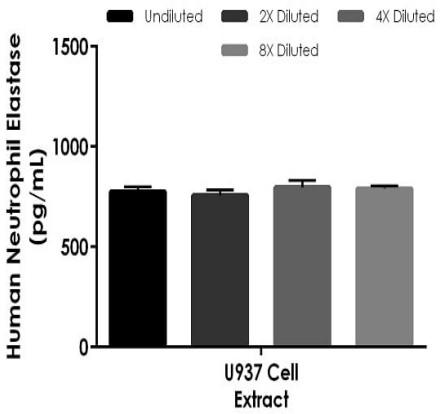
Example of human Neutrophil Elastase standard curve in Sample Diluent 1X Cell Extraction Buffer PTR.

The Neutrophil Elastase 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.



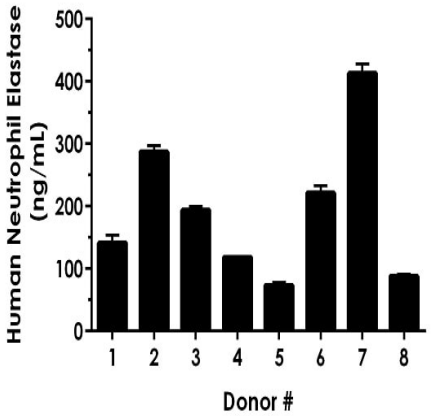
Interpolated concentrations of native Neutrophil Elastase in human serum, plasma (EDTA), plasma (citrate), plasma (heparin).

The concentrations of Neutrophil Elastase were measured in duplicates, interpolated from the target standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1:100, plasma (EDTA) 1:50, Plasma (citrate) 1:100, and plasma (heparin)1:200. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean target concentration was determined to be 225 ng/mL in serum, 113 ng/mL in plasma (EDTA), 215 ng/mL in plasma (citrate), and 291 ng/mL in plasma (heparin).



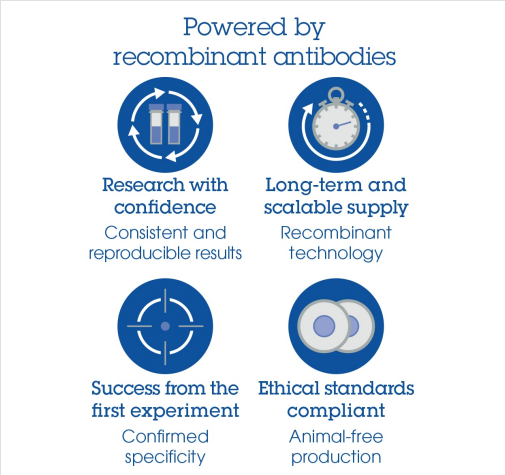
Interpolated concentrations of native Neutrophil Elastase in human U937 cell extract based on a 2.5 µg/mL extract load.

The concentrations of Neutrophil Elastase were measured in duplicate and interpolated from the Neutrophil Elastase standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).



Serum from eight individual healthy Neutrophil Elastase gender donors was measured in duplicate.

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Neutrophil Elastase concentration was determined to be 192 ng/mL with a range of 74 – 413 ng/mL.



Sandwich ELISA - Human Neutrophil Elastase ELISA Kit (ab270204)

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

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