

### Human IRAK4 ELISA Kit ab213472

Recombinant SimpleStep ELISA®

[7 Images](#)

#### Overview

**Product name** Human IRAK4 ELISA Kit

**Detection method** Colorimetric

**Precision**

Intra-assay

Sample	n	Mean	SD	CV%
THP1 extract	8			5%

Inter-assay

Sample	n	Mean	SD	CV%
THP1 extract	3			4%

**Sample type** Cell culture extracts, Tissue Extracts

**Assay type** Sandwich (quantitative)

**Sensitivity** 247.4 pg/ml

**Range** 0.5 ng/ml - 32 ng/ml

**Recovery**

Sample specific recovery

Sample type	Average %	Range
Cell culture extracts	111	107% - 115%
Tissue Extracts	101	100% - 101%

**Assay time** 1h 30m

**Assay duration** One step assay

**Species reactivity** **Reacts with:** Human

**Product overview** Human IRAK4 ELISA Kit (ab213472) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of IRAK4 protein in cell culture extracts and tissue extracts. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human IRAK4 with 247.4 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

IRAK4 is a serine/threonine protein kinase involved in the innate immune response. IRAK4 is recruited by MD88 through TLR signalling, where it phosphorylates IRAK1 and ultimately results in NF-kappa-B nuclear translocation and activation.

The standard is affinity purified.

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 (6 x 8 well strips)

## Properties

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

Components	1 x 96 tests	1 x 384 tests
10X Human IRAK4 Capture Antibody	1 x 600µl	1 x 600µl
10X Human IRAK4 Detector Antibody	1 x 600µl	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 20ml
384 well CaptSure™ microplates	0 x 0 unit	1 unit
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml	1 x 50ml
Antibody Diluent 4BC	1 x 6ml	1 x 6ml
Human IRAK4 Lyophilized Recombinant Protein	2 vials	2 vials
Plate Seals	1 unit	1 unit

Components	1 x 96 tests	1 x 384 tests
Sample Diluent NS (ab193972)	1 x 12ml	0 x 0ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit	0 x 0 unit
Stop Solution	1 x 12ml	2 x 12ml
TMB Development Solution	1 x 12ml	2 x 12ml

**Function**

Required for the efficient recruitment of IRAK1 to the IL-1 receptor complex following IL-1 engagement, triggering intracellular signaling cascades leading to transcriptional up-regulation and mRNA stabilization. Phosphorylates IRAK1.

**Involvement in disease**

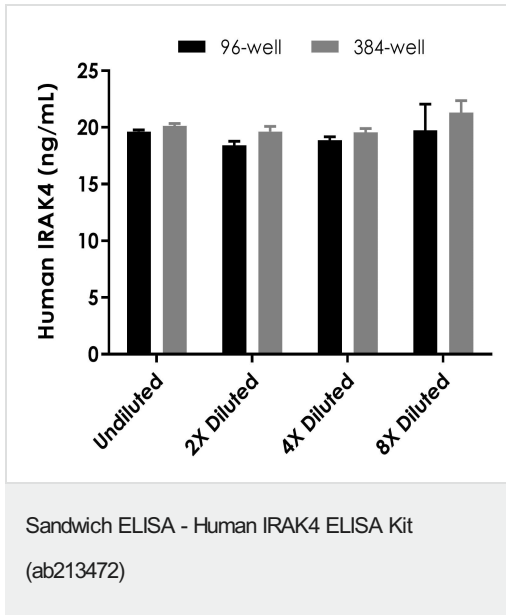
Defects in IRAK4 are the cause of recurrent isolated invasive pneumococcal disease type 1 (IPD1) [MIM:610799]. Recurrent invasive pneumococcal disease (IPD) is defined as two episodes of IPD occurring at least 1 month apart, whether caused by the same or different serotypes or strains. Recurrent IPD occurs in at least 2% of patients in most series, making IPD the most important known risk factor for subsequent IPD.

Defects in IRAK4 are the cause of IRAK4 deficiency (IRAK4D) [MIM:607676]. IRAK4 deficiency causes extracellular pyogenic bacterial and fungal infections in otherwise healthy children.

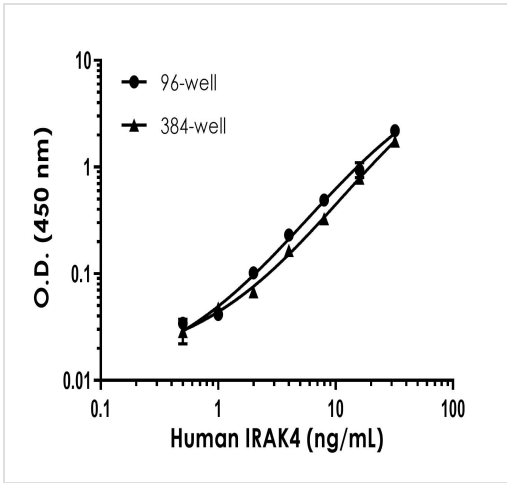
**Sequence similarities**

Belongs to the protein kinase superfamily. TKL Ser/Thr protein kinase family. Pelle subfamily. Contains 1 death domain. Contains 1 protein kinase domain.

**Images**

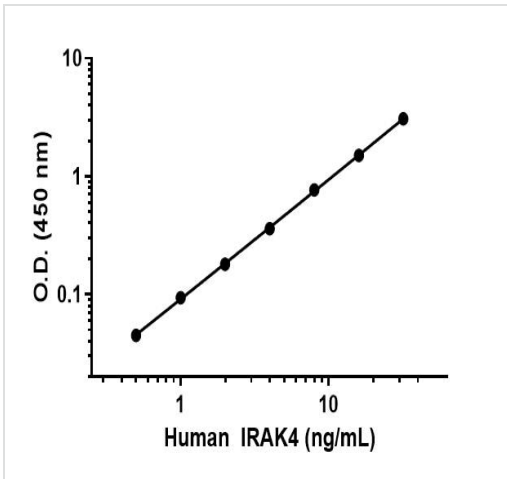


Interpolated concentration of native IRAK4 was measured in duplicate at different sample concentrations in 96-well vs. 384-well plates. Undiluted samples are 125 µg/mL THP1 cell extract. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). Sample dilutions are made in 1X Cell Extraction Buffer PTR.



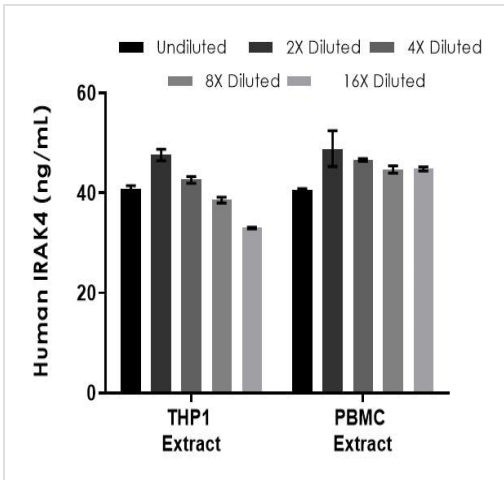
Example of human IRAK4 standard curve in 96-well vs. 384-well plate. Background-subtracted data values (mean +/- SD) are graphed.

Sandwich ELISA - Human IRAK4 ELISA Kit  
(ab213472)



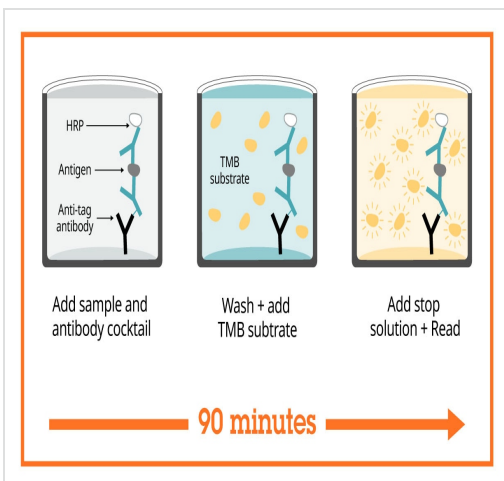
Background-subtracted data values (mean +/- SD) are graphed.

Example of human IRAK4 standard curve.



Interpolated concentrations of native IRAK4 in human THP1 and PBMC extract based on a 500 µg/mL extract load.

The concentrations of IRAK4 were measured in duplicate and interpolated from the IRAK4 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean IRAK4 concentration was determined to be 40.5 ng/mL in THP1 extract and 45.2 ng/mL in PBMC extract.



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 - Human IRAK4 ELISA Kit (ab213472)

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

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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 - Human IRAK4 ELISA Kit  
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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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