

Product datasheet

Human p70S6K ELISA Kit ab283535

Recombinant SimpleStep ELISA®

6 Images

Overview

Product name Human p70S6K ELISA Kit

Detection method Colorimetric

Precision Intra-assay

Sample	n	Mean	SD	CV%
Extract	10			2.5%

Inter-assay

Sample	n	Mean	SD	CV%
Extract	0			0%

Sample type Cell Lysate

Assay type Sandwich (quantitative)

Sensitivity 21.5 pg/ml

Range 140.63 pg/ml - 9000 pg/ml

Recovery Sample specific recovery

Sample type	Average %	Range
Cell Lysate	97	96% - 98%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Human

Product overview Human p70S6K ELISA kit ([ab272199](#)) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Human p70S6K protein in human cell and tissue extract samples. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human p70S6K with 21.5 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

P70S6K, also known as Ribosomal protein S6 kinase beta-1, is a serine/threonine-protein kinase that acts downstream of mTOR signaling in response to growth factors and nutrients to promote cell proliferation, cell growth and cell cycle progression. P70S6K activation requires multiple phosphorylation events on serine/threonine residues. The activation appears to be first mediated by phosphorylation of multiple sites in the autoinhibitory domain, which facilitates phosphorylation at Thr-412, disrupting the autoinhibitory mechanism and allowing phosphorylation of Thr-252 by PDPK1. The active conformation of the kinase is believed to be stabilized by a mechanism involving three conserved phosphorylation sites located in the kinase domain activation loop (Thr-252) and in the AGC-kinase C-terminal domain (Ser-394 in the middle of the tail/linker region and Thr-412 within a hydrophobic motif at its end). P70S6K protein is highly homologous between the species. Relatively to the human protein, Macaca mulatta p70S6K is 100% identical, mouse p70S6K 99.4%, rat p70S6K 99.6%, and cow p70S6K 99.8% identical.

The standard is affinity purified.

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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 p70S6K Capture Antibody	1 x 600µl
10X Human p70S6K Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml

Components	1 x 96 tests
Antibody Diluent CPI2	1 x 6ml
Human p70S6K Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
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

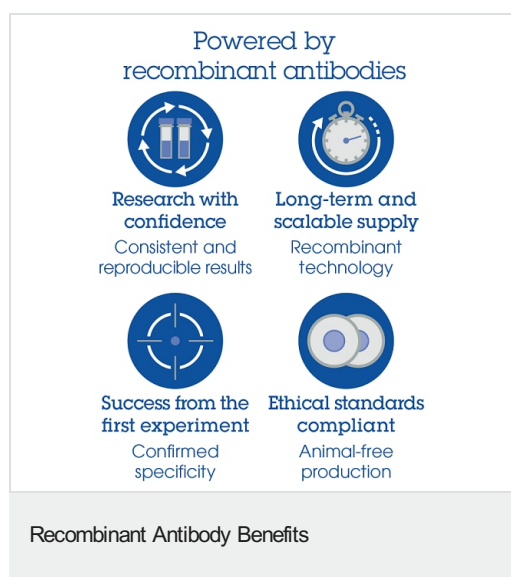
Relevance

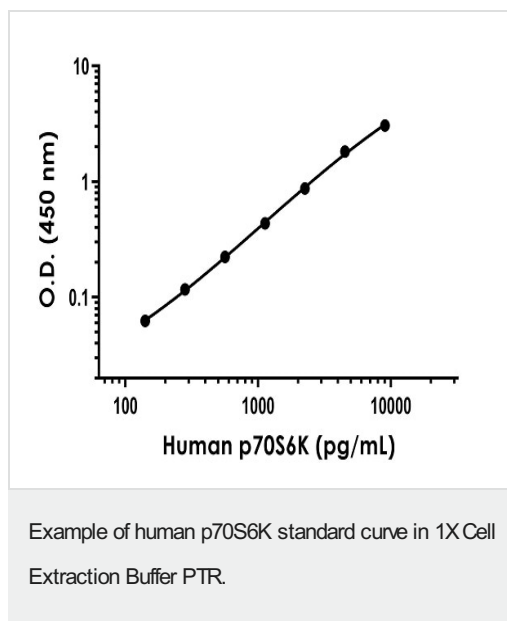
The protein p70 S6 kinase is critical for cell cycle progression and cell survival. In response to mitogen stimulation, p70 S6 kinase activation up-regulates ribosomal biosynthesis and enhances the translational capacity. The p70S6K phosphorylates the S6 protein of the 40S subunit of the ribosome. This kinase was first characterized as an insulin/mitogen-activated protein kinase, whose major known substrate is the 40 S ribosomal subunit protein S6. The p70 S6 kinase is activated by diverse stimuli through a multi-site phosphorylation such as Thr-252 and Ser-434. In Alzheimer's Disease (AD), p70 S6 kinase activation is associated with PHF-tau (hyperphosphorylated tau) accumulation. In non-neuronal cells, p70 S6 kinase have been shown to regulate actin polymerization.

Cellular localization

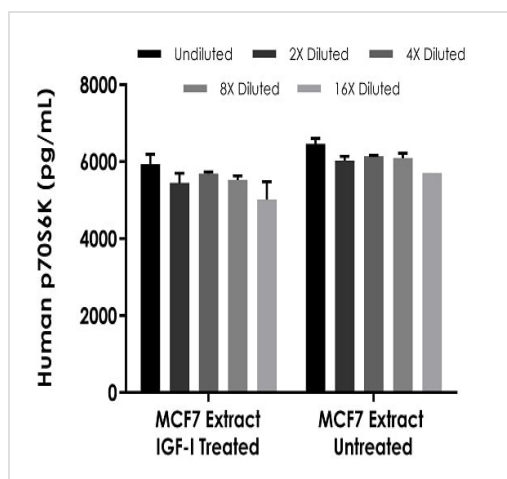
Cell junction › synapse › synaptosome By similarity. Mitochondrion outer membrane. Mitochondrion. Note: Colocalizes with URI1 at mitochondrion. Isoform Alpha I: Nucleus. Cytoplasm Isoform Alpha II: Cytoplasm

Images



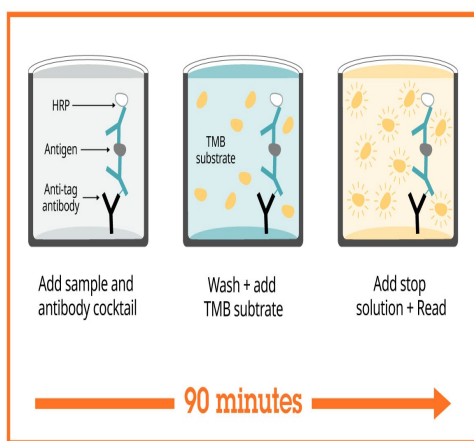


The p70S6K standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean \pm SD) are graphed.



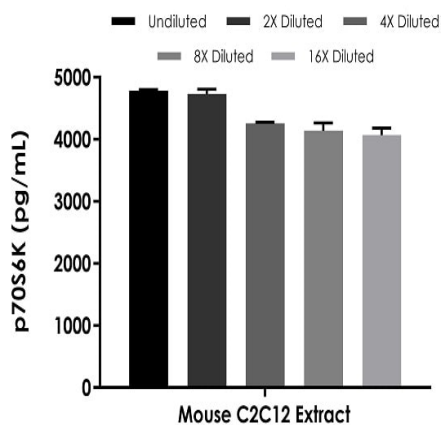
The concentrations of p70S6K were measured in duplicate and interpolated from the p70S6K standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean p70S6K concentration was determined to be 5,525 pg/mL in IGF-I treated MCF7 extract and 6,131 pg/mL in untreated MCF7 extract. Note that interpolated p70S6K1 concentrations are not largely affected by condition that induce the target phosphorylation.

Interpolated concentrations of native p70S6K in human MCF7 cell starved for 24 hours in media without serum then treated with or without 100 ng/mL human IGF-I for 20 minutes based on 8 μ g/mL extracts.



Sandwich ELISA - Human p70S6K ELISA Kit
(ab283535)

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.



Interpolated concentrations of native p70S6K in mouse C2C12 cell based on 200 µg/mL extract load.

The concentrations of p70S6K were measured in duplicate and interpolated from the human p70S6K standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean p70S6K concentration was determined to be 4,395 pg/mL in mouse C2C12 extract.

**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

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

Sandwich ELISA - Human p70S6K ELISA Kit
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