

Human Cyclin D1 ELISA Kit ab214571

重组 SimpleStep ELISA

2 References 8 图像

概述

产品名称

检测方法

精确度

样品类型

检测类型

灵敏度

范围

回收率

检测时间

实验步骤

种属反应性

产品概述

人Cyclin D1 ELISA试剂盒

Colorimetric

批次内

样品	n	Mean	SD	CV%
Overall	5			5%

批次间

样品	n	Mean	SD	CV%
Overall	3			7%

Cell culture extracts, Tissue Extracts

Sandwich (quantitative)

33 pg/ml

0.187 ng/ml - 12 ng/ml

特定样本回收率

样品类型	平均%	范围
Cell culture extracts	122	117% - 124%

1h 30m

One step assay

与反应: Human

Human Cyclin D1 ELISA Kit (ab214571) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Cyclin D1 protein in cell culture extracts and tissue extracts. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Cyclin D1 with 33 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.

说明

Activity of cyclin dependent kinases CDK4 and CDK6 is regulated by the abundance of their cyclin D partners, by phosphorylation, and by association with CDK inhibitors including Kip proteins. Cyclin D-CDK4 complexes are major integrators of various mitogenic and antimitogenic signals. The inactive ternary complex of cyclin D1/CDK4 and p27 Kip1 requires extracellular mitogenic stimuli for the dissociation and degradation of p27 concomitant with a rise in cyclin D1 levels to allow G1/S progression. Active cyclin D1-CDK4 complex phosphorylates and inhibits members of the retinoblastoma (RB) protein family including RB1. The phosphorylation of RB1 allows dissociation of the transcription factor E2F from the RB/E2F complex and the subsequent transcription of E2F target genes which are responsible for the progression through the G1 phase. Upon withdrawal of growth factors, levels of cyclin D1 protein are reduced via downregulation of protein expression and phosphorylation-dependent degradation.

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.

平台

Pre-coated microplate (12 x 8 well strips)

性能

存放说明

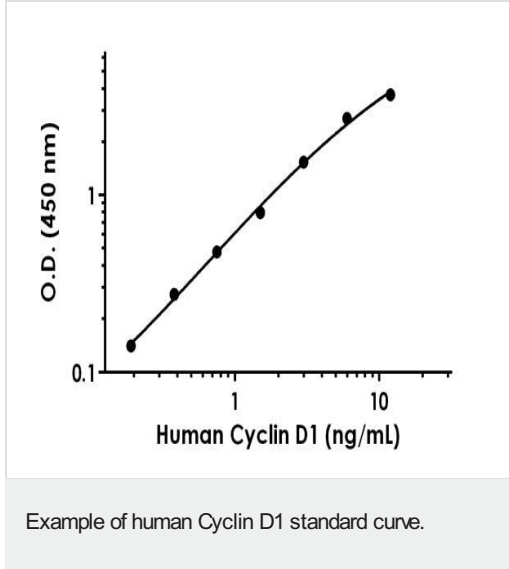
Store at +4°C. Please refer to protocols.

组件	1 x 96 tests
10X Human Cyclin D1 Capture Antibody	1 x 600µl
10X Human Cyclin D1 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent 4BI	1 x 6ml
Human Cyclin D1 Lyophilized Recombinant Protein	2 vials

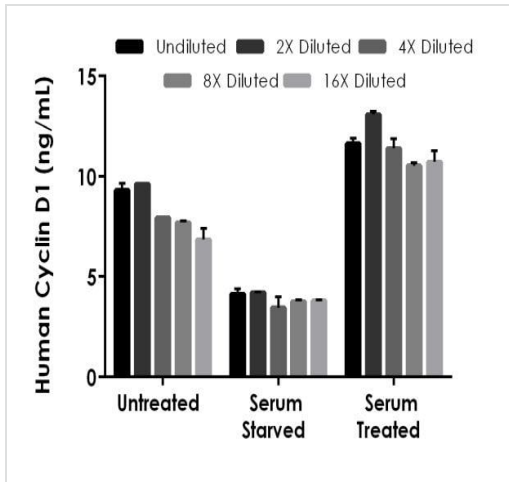
组件	1 x 96 tests
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 12ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

功能	Essential for the control of the cell cycle at the G1/S (start) transition.
疾病相关	<p>Note=A chromosomal aberration involving CCND1 may be a cause of B-lymphocytic malignancy, particularly mantle-cell lymphoma (MCL). Translocation t(11;14)(q13;q32) with immunoglobulin gene regions. Activation of CCND1 may be oncogenic by directly altering progression through the cell cycle.</p> <p>Note=A chromosomal aberration involving CCND1 may be a cause of parathyroid adenomas. Translocation t(11;11)(q13;p15) with the parathyroid hormone (PTH) enhancer.</p> <p>Defects in CCND1 are a cause of multiple myeloma (MM) [MIM:254500]. MM is a malignant tumor of plasma cells usually arising in the bone marrow and characterized by diffuse involvement of the skeletal system, hyperglobulinemia, Bence-Jones proteinuria and anemia. Complications of multiple myeloma are bone pain, hypercalcemia, renal failure and spinal cord compression. The aberrant antibodies that are produced lead to impaired humoral immunity and patients have a high prevalence of infection. Amyloidosis may develop in some patients. Multiple myeloma is part of a spectrum of diseases ranging from monoclonal gammopathy of unknown significance (MGUS) to plasma cell leukemia. Note=A chromosomal aberration involving CCND1 is found in multiple myeloma. Translocation t(11;14)(q13;q32) with the IgH locus.</p>
序列相似性	Belongs to the cyclin family. Cyclin D subfamily.
翻译后修饰	<p>Phosphorylation at Thr-286 by MAP kinases is required for ubiquitination and degradation following DNA damage. It probably plays an essential role for recognition by the FBXO31 component of SCF (SKP1-cullin-F-box) protein ligase complex.</p> <p>Ubiquitinated, primarily as 'Lys-48'-linked polyubiquitination. Ubiquitinated by a SCF (SKP1-CUL1-F-box protein) ubiquitin-protein ligase complex containing FBXO4 and CRYAB (By similarity). Following DNA damage it is ubiquitinated by some SCF (SKP1-cullin-F-box) protein ligase complex containing FBXO31. Ubiquitination leads to its degradation and G1 arrest. Deubiquitinated by USP2; leading to stabilize it.</p>
细胞定位	Nucleus.

图片

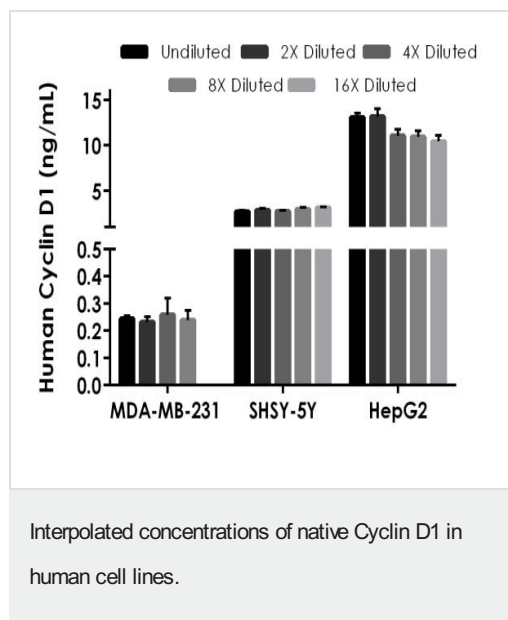


Background-subtracted data values (mean \pm SD) are graphed.

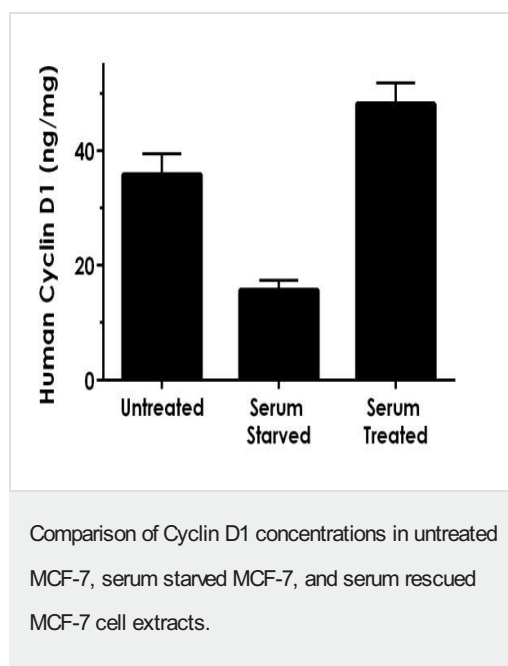


MCF-7 cells were grown in media containing 10% FBS (untreated), serum starved for last 24 hours (serum starved), or serum starved for last 24 hours and then treated with 10% FBS for 6 hours (serum treated). The concentrations of Cyclin D1 were measured in duplicate and interpolated from the Cyclin D1 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean Cyclin D1 concentration was determined to be 8.3 ng/mL in untreated MCF-7 cell extract, 3.9 ng/mL in serum starved MCF-7 cell extract, and 11.5 ng/mL in serum treated MCF-7 cell extract.

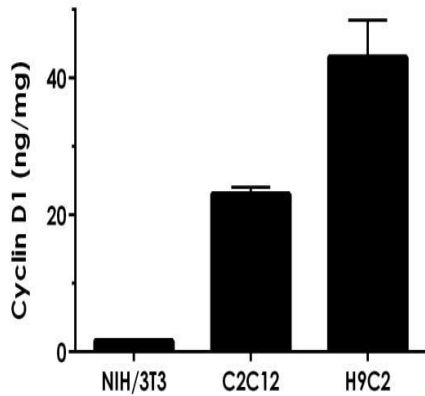
Interpolated concentrations of native Cyclin D1 in human MCF-7 cell extracts based on a 250 μ g/mL extract load.



Interpolated concentrations of native Cyclin D1 in human MDA-MB-231 cell extract based on a 100 µg/mL extract load, SHSY-5Y cell extract based on a 500 µg/mL extract load, and HepG2 cell extract based on a 250 µg/mL extract load. The concentrations of Cyclin D1 were measured in duplicate and interpolated from the Cyclin D1 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean Cyclin D1 concentration was determined to be 0.24 ng/mL in MDA-MB-231 cell extract, 2.89 ng/mL in SHSY-5Y cell extract, and 11.7 ng/mL in HepG2 cell extract.

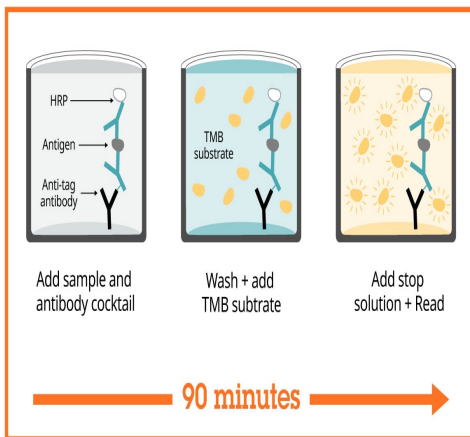


MCF-7 cells were grown in media containing 10% FBS (untreated), serum starved for last 24 hours (serum starved), or serum starved for last 24 hours and then treated with 10% FBS for 6 hours (serum treated). The concentrations of Cyclin D1 were measured in three 2-fold serial dilutions starting at 250 µg/mL in duplicates, interpolated from the Cyclin D1 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted in ng of Cyclin D1 per mg of total extracted protein (mean \pm SD, $n=3$). The mean Cyclin D1 concentration was determined to be 35.8 ng/mg in untreated MCF-7 cell extract, 15.7 ng/mg in serum starved MCF-7 cell extract, and 48.2 ng/mg in serum treated MCF-7 cell extract.



Interpolated concentrations of native Cyclin D1 in mouse NIH/3T3, mouse C2C12 and rat H9C2 cell extracts.

The concentrations of Cyclin D1 were measured in three 2-fold serial dilutions starting at 500 µg/mL for NIH/3T3 and C2C12 cell extracts and 250 µg/mL for H9C2 cell extracts in duplicates, interpolated from the [human](#) Cyclin D1 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted in ng of cyclin D1 per mg of total extracted protein (mean \pm SD, n=2-3). The mean Cyclin D1 concentration was determined to be 1.7 ng/mg in NIH/3T3 cell extract, 23.1 ng/mg in C2C12 cell extract, and 43.1 ng/mg in H9C2 cell extract.



Sandwich ELISA - Human Cyclin D1 ELISA Kit (ab214571)

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.

Powered by
recombinant antibodies



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Consistent and reproducible results



Long-term and scalable supply
Recombinant technology



Success from the first experiment
Confirmed specificity



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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 Cyclin D1 ELISA Kit
(ab214571)

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

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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