

Product datasheet

Human Cyclin D2 ELISA kit ab226894

Recombinant SimpleStep ELISA®

5 Images

Overview

Product name	Human Cyclin D2 ELISA kit				
Detection method	Colorimetric				
Precision	Intra-assay				
	Sample	n	Mean	SD	CV%
	HEK-293T ext	5			2.7%
	Inter-assay				
	Sample	n	Mean	SD	CV%
	HEK-293T ext	3			6.9%
Sample type	Cell culture extracts				
Assay type	Sandwich (quantitative)				
Sensitivity	23 pg/ml				
Range	50 pg/ml - 3200 pg/ml				
Recovery	Sample specific recovery				
	Sample type	Average %		Range	
	Cell culture extracts	92		86% - 97%	
Assay time	1h 30m				
Assay duration	One step assay				
Species reactivity	Reacts with: Human				
Product overview	Human Cyclin D2 ELISA kit (ab226894) is a single-wash 90 min sandwich ELISA designed for				

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

G1/S-Specific cyclin D2, or Cyclin D2, belongs to the conserved cyclin family of proteins, which have a periodicity in expression levels during the cell cycle and is encoded by the CCND2 gene. Cyclin D2 is a regulatory component of the cyclin D2-CDK4 (DC) complex that phosphorylates and inhibits members of the retinoblastoma (RB) protein family, including RB1 and regulates the cell-cycle during G1/S transition. 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. Cyclin D-CDK4 complexes are major integrators of various mitogenic and antimitogenic signals. Cyclin D-CDK4 complexes accumulate at the nuclear membrane and are then translocated into the nucleus through interaction with KIP/CIP family members.

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 Cyclin D2 Capture Antibody	1 x 600µl
10X Human Cyclin D2 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
Antibody Diluent 4BI	1 x 6ml
Human Cyclin D2 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit

Components	1 x 96 tests
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

Regulatory component of the cyclin D2-CDK4 (DC) complex that phosphorylates and inhibits members of the retinoblastoma (RB) protein family including RB1 and regulates the cell-cycle during G(1)/S transition. 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 G(1) phase. Hypophosphorylates RB1 in early G(1) phase. Cyclin D-CDK4 complexes are major integrators of various mitogenic and antimitogenic signals. Also substrate for SMAD3, phosphorylating SMAD3 in a cell-cycle-dependent manner and repressing its transcriptional activity. Component of the ternary complex, cyclin D2/CDK4/CDKN1B, required for nuclear translocation and activity of the cyclin D-CDK4 complex.

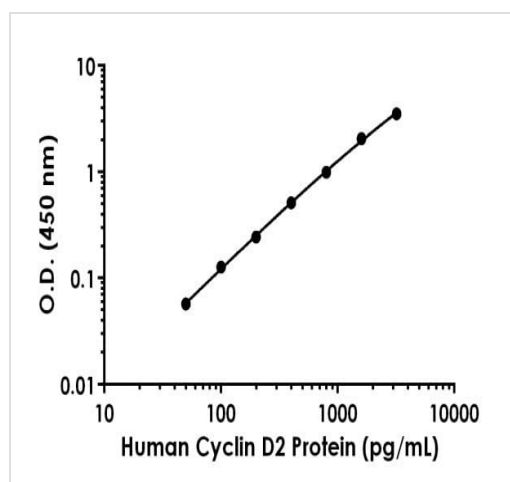
## Sequence similarities

Belongs to the cyclin family. Cyclin D subfamily.  
Contains 1 cyclin N-terminal domain.

## Cellular localization

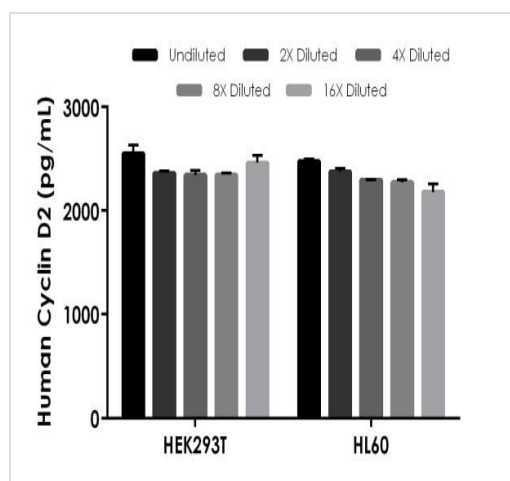
Nucleus. Cytoplasm. Membrane. Cyclin D-CDK4 complexes accumulate at the nuclear membrane and are then translocated into the nucleus through interaction with KIP/CIP family members.

## Images



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

Example of Human Cyclin D2 standard curve in 1X Cell Extraction Buffer PTR



Interpolated concentrations of native Cyclin D2 in Human HEK-293T and HL-60 cell extract samples

Interpolated concentrations of native Cyclin D2 in Human HEK-293T cell extract samples based on a 1,250 µg/ml extract load, and interpolated concentrations of spiked Cyclin D2 into HL-60 Cell Extract samples at an extract load of 500 µg/ml. The concentrations of Cyclin D2 were measured in duplicates, interpolated from the Cyclin D2 standard curves and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Cyclin D2 concentration was determined to be 2,612 pg/mL in HEK-293T Cell Extract.

Powered by  
recombinant antibodies

**Research with confidence**  
Consistent and reproducible results

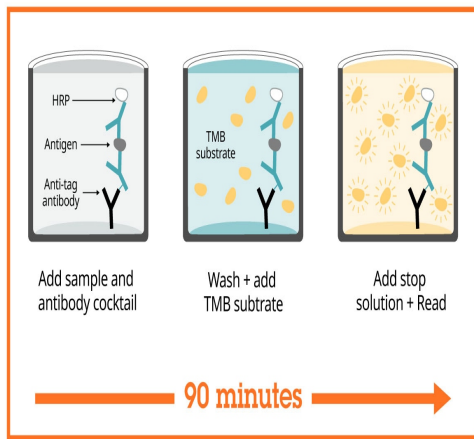
**Long-term and scalable supply**  
Recombinant technology

**Success from the first experiment**  
Confirmed specificity

**Ethical standards compliant**  
Animal-free production

Sandwich ELISA - Human Cyclin D2 ELISA kit  
(ab226894)

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



Sandwich ELISA - Human Cyclin D2 ELISA kit  
(ab226894)

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.

#### 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 D2 ELISA kit  
(ab226894)

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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