

# Human Beta-tubulin ELISA Kit ab245722

Recombinant SimpleStep ELISA®

1 References 4 Images

## Overview

Product name	Human Beta-tubulin ELISA Kit				
Detection method	Colorimetric				
Precision	Intra-assay				
	Sample	n	Mean	SD	CV%
	cell extract	5			3.4%
	Inter-assay				
	Sample	n	Mean	SD	CV%
	cell extract	3			4%
Sample type	Cell culture extracts, Tissue Extracts				
Assay type	Sandwich (quantitative)				
Sensitivity	25.77 pg/ml				
Range	187.5 pg/ml - 12000 pg/ml				
Recovery	Sample specific recovery				
	Sample type	Average %		Range	
	Cell culture extracts	98		92% - 103%	
Assay time	1h 30m				
Assay duration	One step assay				
Species reactivity	Reacts with: Human				
Product overview	Human Beta-tubulin ELISA Kit (ab245722) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Beta-tubulin protein in cell culture extracts and tissue extracts. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Beta-tubulin with 25.77 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**

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 Beta-tubulin Capture Antibody	1 x 600µl
10X Human Beta-tubulin Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent 5BR	1 x 6ml
Human Beta-tubulin 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

**Function** Tubulin is the major constituent of microtubules. It binds two moles of GTP, one at an exchangeable site on the beta chain and one at a non-exchangeable site on the alpha chain.

**Tissue specificity** Ubiquitously expressed with highest levels in spleen, thymus and immature brain.

**Involvement in disease**

Cortical dysplasia, complex, with other brain malformations 6  
Skin creases, congenital symmetric circumferential, 1

**Sequence similarities**

Belongs to the tubulin family.

**Domain**

The highly acidic C-terminal region may bind cations such as calcium.

**Post-translational modifications**

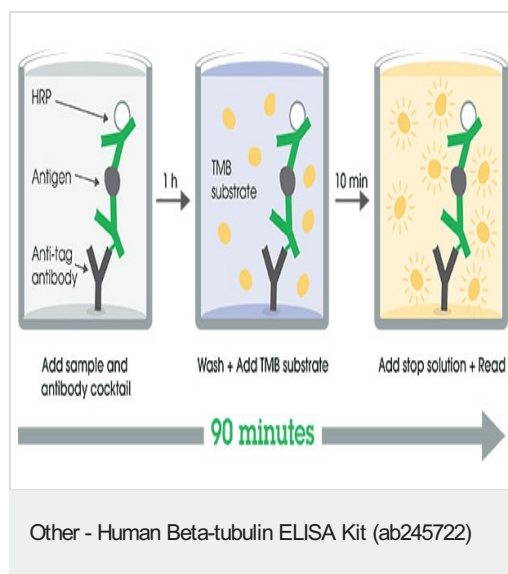
Some glutamate residues at the C-terminus are polyglutamylated, resulting in polyglutamate chains on the gamma-carboxyl group (PubMed:26875866). Polyglutamylation plays a key role in microtubule severing by spastin (SPAST). SPAST preferentially recognizes and acts on microtubules decorated with short polyglutamate tails: severing activity by SPAST increases as the number of glutamates per tubulin rises from one to eight, but decreases beyond this glutamylation threshold (PubMed:26875866).

Some glutamate residues at the C-terminus are monoglycylated but not polyglycylated due to the absence of functional TTL10 in human. Monoglycylation is mainly limited to tubulin incorporated into axonemes (cilia and flagella). Both polyglutamylation and monoglycylation can coexist on the same protein on adjacent residues, and lowering glycylation levels increases polyglutamylation, and reciprocally. The precise function of monoglycylation is still unclear.

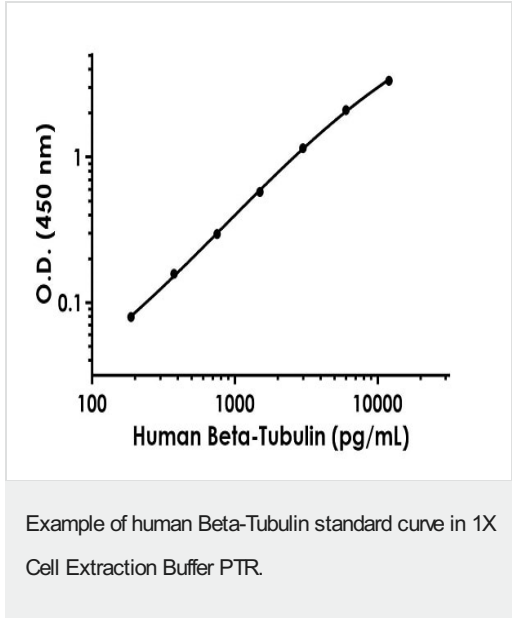
Phosphorylated on Ser-172 by CDK1 during the cell cycle, from metaphase to telophase, but not in interphase. This phosphorylation inhibits tubulin incorporation into microtubules.

**Cellular localization**

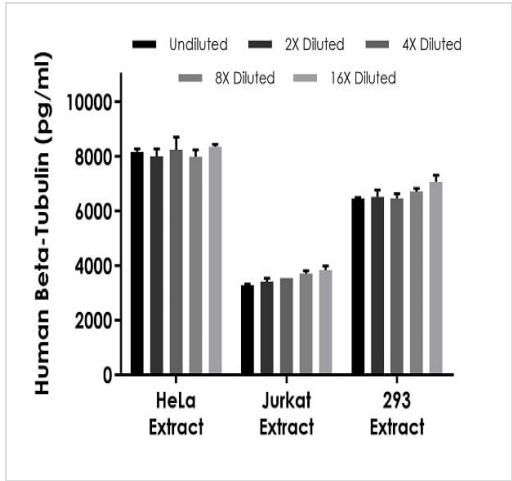
Cytoplasm, cytoskeleton.

**Images**

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.



The Beta-Tubulin 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 Beta-Tubulin were measured in duplicate and interpolated from the Beta-Tubulin standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean  $\pm$  SD,  $n=2$ ). The mean Beta-Tubulin concentration was determined to be 8,281.0 pg/mL in HeLa, 3,557.9 pg/ml in Jurkat, and 6,718.6 pg/ml in 293 cell extract samples at the specified extract loads.

Interpolated concentrations of native Beta-Tubulin in human HeLa and 293 cell extract samples based on a 2  $\mu$ g/mL extract load and Jurkat cell extract samples based on a 1  $\mu$ g/mL extract load.

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 Beta-tubulin ELISA Kit  
(ab245722)

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

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

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