

Product datasheet

GFP ELISA Kit ab171581

SimpleStep ELISA

★★★★★ [3 Abreviews](#) [20 References](#) [9 Images](#)

Overview

Product name GFP ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Cell Lysate	9			3.1%

Inter-assay

Sample	n	Mean	SD	CV%
Cell Lysate	3			8.2%

Sample type Cell Lysate, Tissue Lysate

Assay type Sandwich (quantitative)

Sensitivity 2.8 pg/ml

Range 18.8 pg/ml - 1200 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Fetal Bovine Serum	97	96% - 98%

Assay time 1h 30m

Assay duration One step assay

Product overview

GFP ELISA kit (ab171581) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of GFP protein in cell and tissue lysates. It uses our proprietary SimpleStep ELISA® technology. Quantitate human GFP with 1.8 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

Watch our short animated video to see how it works

A 384-well SimpleStep ELISA® microplate ([ab203359](#)) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

This kit will detect both the Enhanced and Superfold variants of GFP.

Accurate ELISAs don't have to take 3 hours or more. SimpleStep ELISA® kits deliver fast results in just 90 minutes by reducing antibody and sample additions to a single step.

Notes

Green fluorescent protein (GFP) is a 27 kDa protein derived from the jellyfish *Aequorea victoria*, which emits green light (emission peak at a wavelength of 509 nm) when excited by blue light (excitation peak at a wavelength of 395 nm). GFP has become an invaluable tool in cell biology research, since its intrinsic fluorescence can be visualized in living cells. GFP fluorescence is stable under fixation conditions and suitable for a variety of applications. GFP has been widely used as a reporter for gene expression, enabling researchers to visualize and localize GFP-tagged proteins within living cells without the need for chemical staining. Other applications of GFP include assessment of protein-protein interactions through the yeast two hybrid system and measurement of distance between proteins through fluorescence energy transfer (FRET) protocols. GFP technology has considerably contributed to a greater understanding of cellular physiology.

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

Microplate

Properties

Storage instructions

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

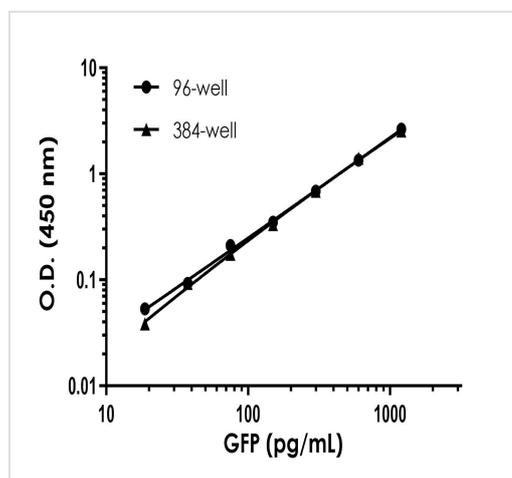
Components	1 x 96 tests	10 x 96 tests	1 x 384 tests
10X GFP Capture Antibody	1 x 600µl	10 x 600µl	1 x 600µl
10X GFP Detector Antibody	1 x 600µl	10 x 600µl	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 200ml	1 x 20ml

Components	1 x 96 tests	10 x 96 tests	1 x 384 tests
384 well CaptSure™ microplates	0 x 0 unit	0 x 0 unit	1 unit
4X Antibody Diluent EB	1 x 6ml	10 x 6ml	1 x 6ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml	10 x 1ml	6 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml	2 x 50ml	1 x 50ml
GFP Lyophilized Recombinant Protein	2 vials	10 x 2 vials	2 vials
Plate Seals	1 unit	10 units	1 unit
Sample Diluent NS (ab193972)	1 x 12ml	0 x 0ml	0 x 0ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit	10 units	0 x 0 unit
Stop Solution	1 x 12ml	1 x 120ml	2 x 12ml
TMB Development Solution	1 x 12ml	1 x 120ml	2 x 12ml

Relevance

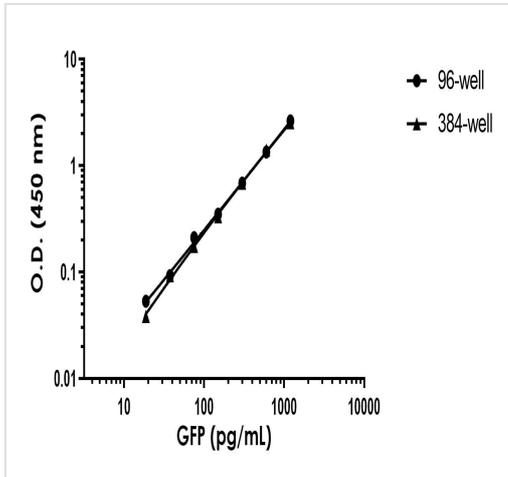
Energy-transfer acceptor. Its role is to transduce the blue chemiluminescence of the protein aequorin into green fluorescent light by energy transfer. Fluoresces in vivo upon receiving energy from the Ca²⁺-activated photoprotein aequorin.

Images



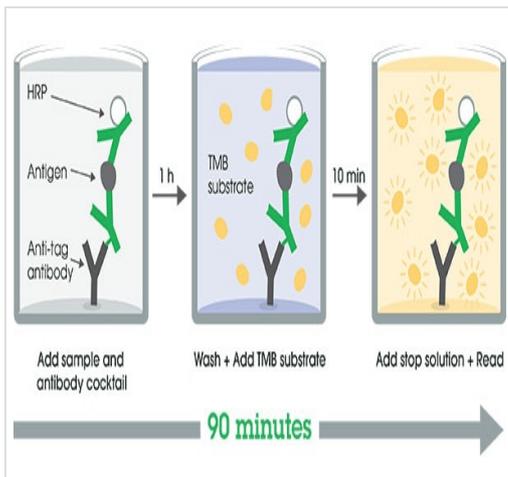
Sandwich ELISA - GFP ELISA Kit (ab171581)

Recombinant GFP was spiked into the following human samples and diluted in a 2-fold dilution series in 1X Cell Extraction Buffer PTR in 96-well and 384-well plates. Undiluted samples are 125 µg/mL HeLa cell extract. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).



Sandwich ELISA - GFP ELISA Kit (ab171581)

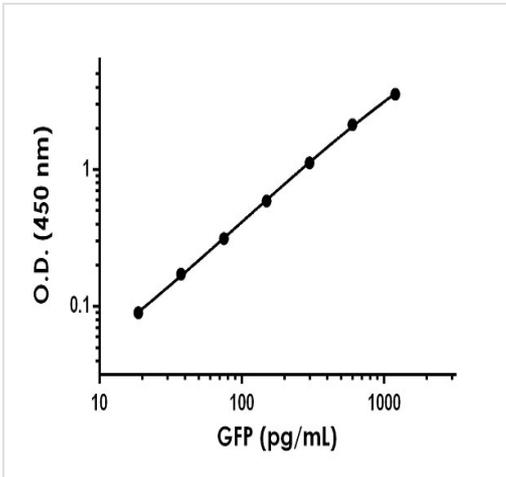
Example of GFP standard curve in 96-well and 384-well plate.
Background-subtracted data values (mean +/- SD) are graphed.



Other - GFP ELISA Kit (ab171581)

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.

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



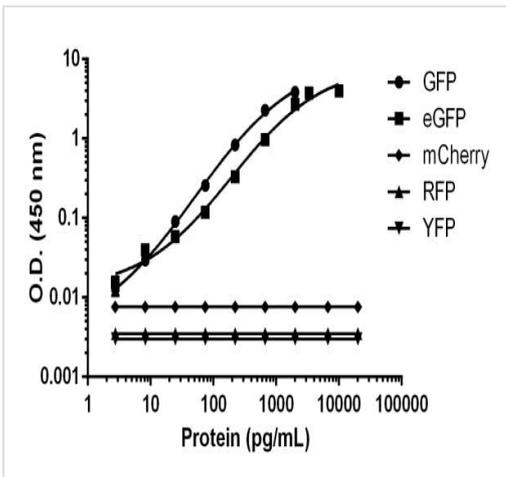
Example GFP standard curve

Raw data values are shown in the table

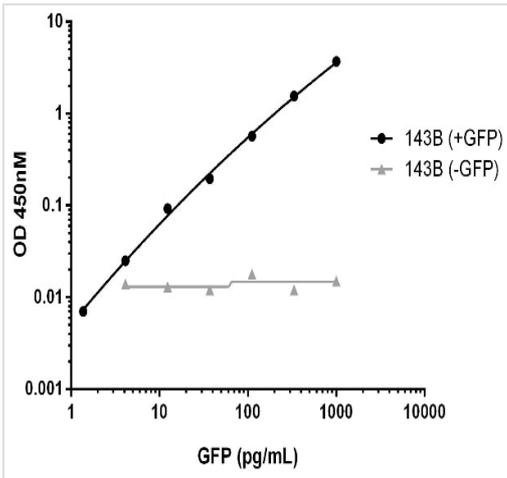
Standard Curve Measurements			
Concentration (pg/ml)	O.D 450 nm		Mean O.D
	1	2	
0	0.055	0.052	0.054
18.8	0.145	0.143	0.144
37.5	0.232	0.220	0.226
75	0.368	0.367	0.368
150	0.651	0.638	0.645
300	1.197	1.155	1.176
600	2.215	2.149	2.182
1,200	3.588	3.625	3.606

Example of raw data for GFP standard curve

This kit recognizes both GFP and enhanced GFP (eGFP) in cell and tissue extracts. No reactivity with mCherry, RFP or YFP was observed.

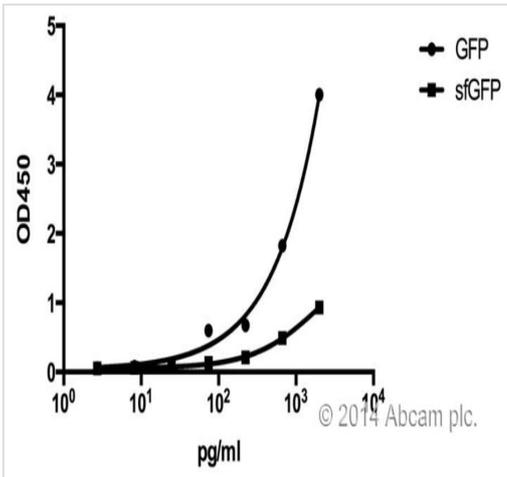


GFP cross reactivity data



Titration of GFP spiked 143B cell lysate within the working range of the assay

Background subtracted data from triplicate measurements are plotted.



The kit works with superfold GFP.

[See Abreview](#)

AbReview

This image is courtesy submitted by Ling Chun

LINEARITY OF DILUTION -

GFP spiked 143B lysate Dilution	GFP spiked 143B lysate (pg/mL)	% Expected Value
undiluted	744.1	100
1:3	248.0	100
1:9	86.6	105
1:27	31.3	114

GFP spiked 143B lysate was measured in 3-fold dilution series

Linearity of dilution for spiked GFP

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

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours

- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors