

Human Smad2 ELISA Kit ab260065

Recombinant SimpleStep ELISA

5 Images

Overview

Product name	Human Smad2 ELISA Kit				
Detection method	Colorimetric				
Precision	Intra-assay				
	Sample	n	Mean	SD	CV%
	Extract	8			5.7%
Sample type	Cell Lysate				
Assay type	Sandwich (quantitative)				
Sensitivity	23.95 pg/ml				
Range	125 pg/ml - 8000 pg/ml				
Recovery	Sample specific recovery				
	Sample type		Average %		Range
	Cell Lysate		93		% - %
Assay time	1h 30m				
Assay duration	One step assay				
Species reactivity	Reacts with: Human				
Product overview	Human Smad2 ELISA Kit (ab260065) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Smad2 protein in cell lysate. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Smad2 with 23.95 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

Smad2 is involved in signal transduction in the TGF-beta pathway. Smad2 activates transcription through binding of the TRE element in genes. Smad2 has been implicated in colorectal cancer as a tumor suppressor.

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.

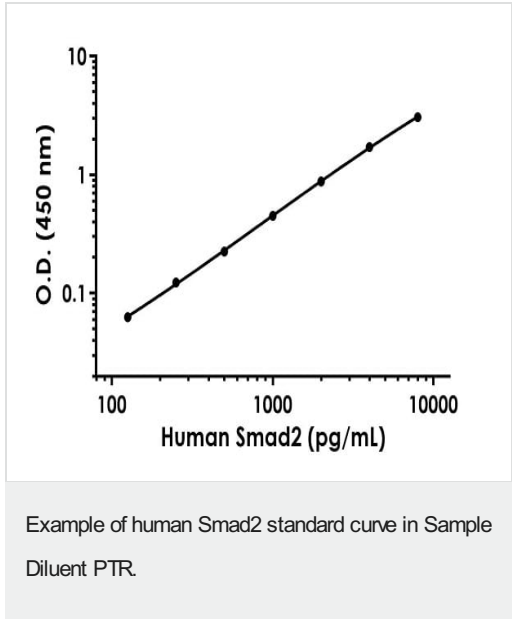
Components	1 x 96 tests
10X Human Smad2 Capture Antibody	1 x 600µl
10X Human Smad2 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent 4BR	1 x 6ml
Human Smad2 Lyophilized 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

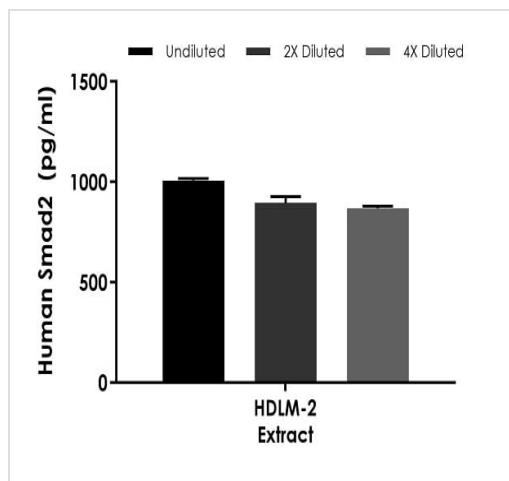
Receptor-regulated SMAD (R-SMAD) that is an intracellular signal transducer and transcriptional modulator activated by TGF-beta (transforming growth factor) and activin type 1 receptor kinases. Binds the TRE element in the promoter region of many genes that are regulated by TGF-beta and, on formation of the SMAD2/SMAD4 complex, activates transcription. May act as a tumor

	<p>suppressor in colorectal carcinoma.</p> <p>Expressed at high levels in skeletal muscle, heart and placenta.</p>
<b>Tissue specificity</b>	
<b>Sequence similarities</b>	<p>Belongs to the dwarfin/SMAD family.</p> <p>Contains 1 MH1 (MAD homology 1) domain.</p> <p>Contains 1 MH2 (MAD homology 2) domain.</p>
<b>Post-translational modifications</b>	<p>Phosphorylated on one or several of Thr-220, Ser-245, Ser-250, and Ser-255. In response to TGF-beta, phosphorylated on Ser-465/467 by TGF-beta and activin type 1 receptor kinases. Able to interact with SMURF2 when phosphorylated on Ser-465/467, recruiting other proteins, such as SNON, for degradation. In response to decorin, the naturally occurring inhibitor of TGF-beta signaling, phosphorylated on Ser-240 by CaMK2. Phosphorylated by MAPK3 upon EGF stimulation; which increases transcriptional activity and stability, and is blocked by calmodulin. In response to TGF-beta, ubiquitinated by NEDD4L; which promotes its degradation. Acetylated on Lys-19 by coactivators in response to TGF-beta signaling, which increases transcriptional activity. Isoform short: Acetylation increases DNA binding activity in vitro and enhances its association with target promoters in vivo. Acetylation in the nucleus by EP300 is enhanced by TGF-beta.</p>
<b>Cellular localization</b>	<p>Cytoplasm. Nucleus. Cytoplasmic and nuclear in the absence of TGF-beta. On TGF-beta stimulation, migrates to the nucleus when complexed with SMAD4. On dephosphorylation by phosphatase PPM1A, released from the SMAD2/SMAD4 complex, and exported out of the nucleus by interaction with RANBP1.</p>

Images

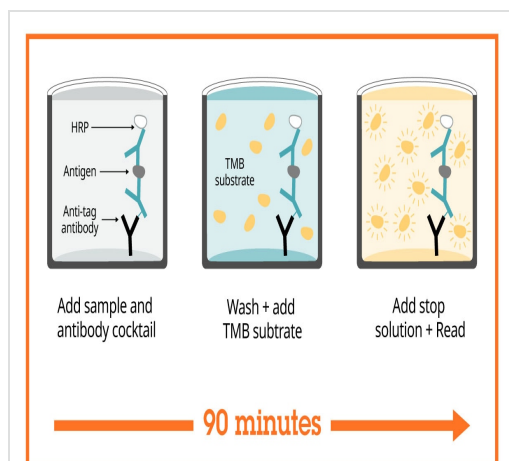


The Smad2 standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



Interpolated concentrations of native Smad2 in human HDLM-2 cell culture extract based on a 125 µg/mL extract load.

The concentrations of Smad2 were measured in duplicate and interpolated from the Smad2 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean  $\pm$  SD, n=2). The mean Smad2 concentration was determined to be 923.76 pg/mL in HDLM-2 extract.



Sandwich ELISA - Human Smad2 ELISA Kit  
(ab260065)

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



**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 Smad2 ELISA Kit  
(ab260065)

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 Smad2 ELISA Kit  
(ab260065)

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

**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