

## Product datasheet

### Anti-HAUSP / USP7 antibody ab4080

★★★★★ [3 Abreviews](#) [33 References](#) [3 Images](#)

#### Overview

<b>Product name</b>	Anti-HAUSP / USP7 antibody
<b>Description</b>	Rabbit polyclonal to HAUSP / USP7
<b>Host species</b>	Rabbit
<b>Specificity</b>	By Western blot, this antibody detects a single clean band of about 130kD representing HAUSP in various cell lysates (see picture). The band is strongly depleted using peptide blocking with the immunising peptide.
<b>Tested applications</b>	<b>Suitable for:</b> IHC-P, IP, ELISA, WB, ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Human
<b>Immunogen</b>	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
<b>General notes</b>	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&amp;As</p>

#### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
<b>Storage buffer</b>	Preservative: 0.01% Sodium azide Constituents: 0.42% Potassium phosphate, 0.87% Sodium chloride
<b>Purity</b>	Immunogen affinity purified
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

#### Applications

## The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab4080 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P	★★★★★ (1)	Use at an assay dependent concentration. PubMed: 16450335
IP	★★★★★ (1)	Use at an assay dependent concentration.
ELISA		1/15000 - 1/60000.
WB	★★★★☆ (1)	1/500 - 1/2000. Detects a band of approximately 130 kDa (predicted molecular weight: 128 kDa).
ICC/IF		Use a concentration of 1 µg/ml.

## Target

### Function

Hydrolase that deubiquitinates target proteins such as FOXO4, p53/TP53, MDM2, ERCC6, DNMT1, UHRF1, PTEN and DAXX (PubMed:11923872, PubMed:15053880, PubMed:16964248, PubMed:18716620, PubMed:25283148). Together with DAXX, prevents MDM2 self-ubiquitination and enhances the E3 ligase activity of MDM2 towards p53/TP53, thereby promoting p53/TP53 ubiquitination and proteasomal degradation. Deubiquitinates p53/TP53, preventing degradation of p53/TP53, and enhances p53/TP53-dependent transcription regulation, cell growth repression and apoptosis (PubMed:25283148). Deubiquitinates p53/TP53 and MDM2 and strongly stabilizes p53/TP53 even in the presence of excess MDM2, and also induces p53/TP53-dependent cell growth repression and apoptosis. Deubiquitination of FOXO4 in presence of hydrogen peroxide is not dependent on p53/TP53 and inhibits FOXO4-induced transcriptional activity. In association with DAXX, is involved in the deubiquitination and translocation of PTEN from the nucleus to the cytoplasm, both processes that are counteracted by PML. Involved in cell proliferation during early embryonic development. Involved in transcription-coupled nucleotide excision repair (TC-NER) in response to UV damage: recruited to DNA damage sites following interaction with KIAA1530/UVSSA and promotes deubiquitination of ERCC6, preventing UV-induced degradation of ERCC6. Contributes to the overall stabilization and trans-activation capability of the herpesvirus 1 trans-acting transcriptional protein ICP0/VMW110 during HSV-1 infection. Involved in maintenance of DNA methylation via its interaction with UHRF1 and DNMT1: acts by mediating deubiquitination of UHRF1 and DNMT1, preventing their degradation and promoting DNA methylation by DNMT1 (PubMed:21745816). Exhibits a preference towards 'Lys-48'-linked ubiquitin chains. Increases regulatory T-cells (Treg) suppressive capacity by deubiquitinating and stabilizing the transcription factor FOXP3 which is crucial for Treg cell function (PubMed:23973222).

### Tissue specificity

Widely expressed. Overexpressed in prostate cancer.

### Sequence similarities

Belongs to the peptidase C19 family.  
Contains 1 MATH domain.  
Contains 1 USP domain.

### Domain

The C-terminus plays a role in its oligomerization.

### Post-translational modifications

Isoform 1: Phosphorylated. Isoform 1 is phosphorylated at positions Ser-18 and Ser-963. Isoform 2: Not phosphorylated.  
Isoform 1: Polyneddylated. Isoform 2: Not Polyneddylated.

Isoform 1 and isoform 2: Not sumoylated.

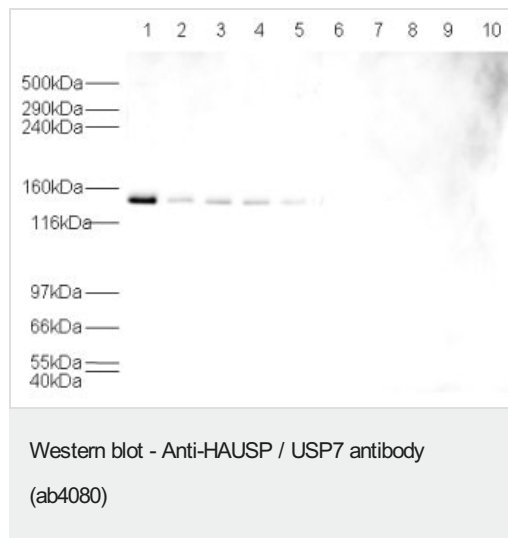
Isoform 1 and isoform 2: Polyubiquitinated by herpesvirus 1 trans-acting transcriptional protein ICP0/VMW110; leading to its subsequent proteasomal degradation. Isoform 1: Ubiquitinated at Lys-869.

## Cellular localization

Nucleus. Cytoplasm. Nucleus, PML body. Present in a minority of ND10 nuclear bodies.

Association with ICP0/VMW110 at early times of infection leads to an increased proportion of USP7-containing ND10. Colocalizes with ATXN1 in the nucleus. Colocalized with DAXX in speckled structures. Colocalized with PML and PTEN in promyelocytic leukemia protein (PML) nuclear bodies.

## Images



Western blot using ab4080 at 1/500. Secondary antibody **anti-rabbit HRP ab6721** at 1/5000. Exposure time 30s.

Lane 1: HeLa nuclear

Lane 2: HeLa

Lane 3: A431

Lane 4: MCF7

Lane 5: 3T3

Lane 6: HeLa nuclear + **ab11707** HAUSP peptide (aa30-41)

Lane 7: HeLa + **ab11707** HAUSP peptide (aa30-41)

Lane 8: A431 + **ab11707** HAUSP peptide (aa30-41)

Lane 9: MCF7 + **ab11707** HAUSP peptide (aa30-41)

Lane 10: 3T3 + **ab11707** HAUSP peptide (aa30-41)

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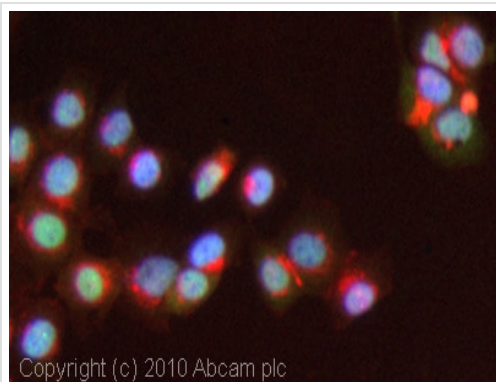
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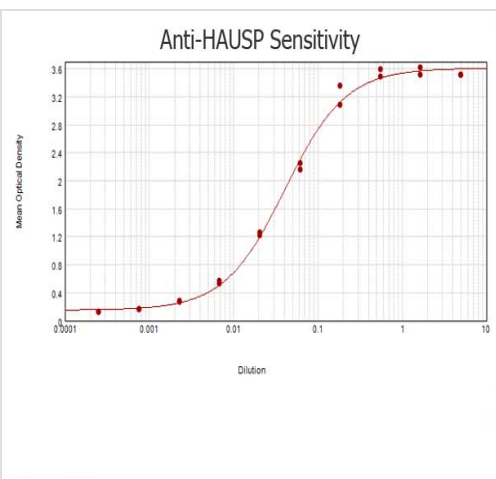
Lane 9: MCF7 + **ab11707** HAUSP peptide (aa30-41)

Lane 10: 3T3 + **ab11707** HAUSP peptide (aa30-41)



Immunocytochemistry/ Immunofluorescence - Anti-HAUSP / USP7 antibody (ab4080)

ICC/IF image of ab4080 stained Mcf7 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab4080, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



ELISA - Anti-HAUSP / USP7 antibody (ab4080)

ELISA results of purified ab4080 tested against BSA-conjugated peptide of immunizing peptide. Each well was coated in duplicate with 0.1 µg of conjugate. The starting dilution of antibody was 5 µg/mL and the X-axis represents the Log10 of a 3-fold dilution. This titration is a 4-parameter curve fit where the IC50 is defined as the titer of the antibody. Assay performed using 3% fish gelatin as blocking buffer, Goat anti-Rabbit IgG Peroxidase Conjugated secondary antibody and TMB substrate.

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