

Product datasheet

Anti-HSF1 (phospho S303 + S307) antibody [EP1711Y] ab81281

Recombinant RabMAb

[5 References](#) [5 Images](#)

Overview

Product name	Anti-HSF1 (phospho S303 + S307) antibody [EP1711Y]
Description	Rabbit monoclonal [EP1711Y] to HSF1 (phospho S303 + S307)
Host species	Rabbit
Tested applications	Suitable for: WB, IHC-P, ICC/IF, Flow Cyt (Intra) Unsuitable for: Flow Cyt or IP
Species reactivity	Reacts with: Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers. (Peptide available as ab78795)
Positive control	WB: HeLa and K-562 whole cell lysates. IHC-P: Human breast carcinoma. ICC/IF: HeLa cells. Flow Cyt (Intra): HeLa cells.
General notes	<p>This product has switched from a hybridoma to recombinant production method on 30th May 2023.</p> <p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none">- High batch-to-batch consistency and reproducibility- Improved sensitivity and specificity- Long-term security of supply- Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 0.05% BSA, 40% Glycerol (glycerin, glycerine), 59% PBS

Purity	Protein A purified
Clonality	Monoclonal
Clone number	EP1711Y
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab81281 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

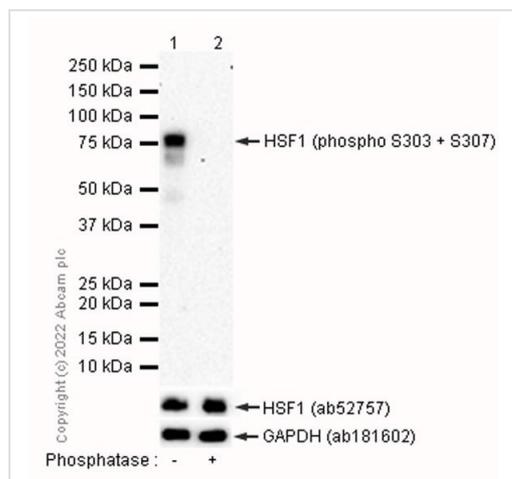
Application	Abreviews	Notes
WB		1/50000. Predicted molecular weight: 57 kDa. Can be blocked with Recombinant Human HSF1 protein (ab78795) .
IHC-P		1/2000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
ICC/IF		1/1000.
Flow Cyt (Intra)		1/90.

Application notes Is unsuitable for Flow Cyt or IP.

Target

Function	DNA-binding protein that specifically binds heat shock promoter elements (HSE) and activates transcription. In higher eukaryotes, HSF is unable to bind to the HSE unless the cells are heat shocked.
Sequence similarities	Belongs to the HSF family.
Domain	the 9aaTAD motif is a transactivation domain present in a large number of yeast and animal transcription factors.
Post-translational modifications	Phosphorylated on multiple serine residues, a subset of which are involved in stress-related regulation of transcription activation. Constitutive phosphorylation represses transcriptional activity at normal temperatures. Levels increase on specific residues heat-shock and enhance HSF1 transactivation activity. Phosphorylation on Ser-307 derepresses activation on heat-stress and in combination with Ser-303 phosphorylation appears to be involved in recovery after heat-stress. Phosphorylated on Ser-230 by CAMK2, in vitro. Cadmium also enhances phosphorylation at this site. Phosphorylation on Ser-303 is a prerequisite for HSF1 sumoylation. Phosphorylation on Ser-121 inhibits transactivation and promotes HSP90 binding. Phosphorylation on Thr-142 also mediates transcriptional activity induced by heat. Phosphorylation on Ser-326 plays an important role in heat activation of HSF1 transcriptional activity. Sumoylated with SUMO1 and SUMO2 on heat-shock. Heat-inducible sumoylation occurs after 15 min of heat-shock, after which levels decrease and at 4 hours, levels return to control levels. Sumoylation has no effect on HSE binding nor on transcriptional activity. Phosphorylation on Ser-303 is a prerequisite for sumoylation.
Cellular localization	Cytoplasm. Nucleus. Cytoplasmic during normal growth. On activation, translocates to nuclear stress granules. Colocalizes with SUMO1 in nuclear stress granules.

Images



Western blot - Anti-HSF1 (phospho S303 + S307) antibody [EP1711Y] (ab81281)

All lanes : Anti-HSF1 (phospho S303 + S307) antibody [EP1711Y] (ab81281) at 1/50000 dilution

Lane 1 : HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate at 15 µg

Lane 2 : HeLa whole cell lysate, then the membrane treated with Alkaline Phosphatase for 1 hour

Secondary

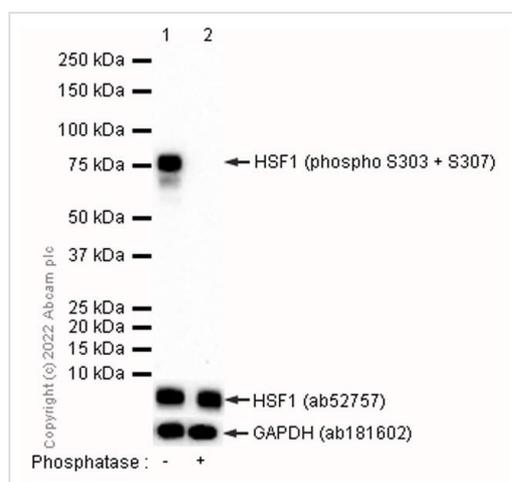
All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

Predicted band size: 57 kDa

Observed band size: 76 kDa

Exposure time: 180 seconds

Blocking and dilution buffer: 5% NFDM/TBST.



Western blot - Anti-HSF1 (phospho S303 + S307) antibody [EP1711Y] (ab81281)

All lanes : Anti-HSF1 (phospho S303 + S307) antibody [EP1711Y] (ab81281) at 1/50000 dilution

Lane 1 : K-562 (Human chronic myelogenous leukemia lymphoblast) whole cell lysate at 15 µg

Lane 2 : K-562 whole cell lysate, then the membrane treated with Alkaline Phosphatase for 1 hour

Secondary

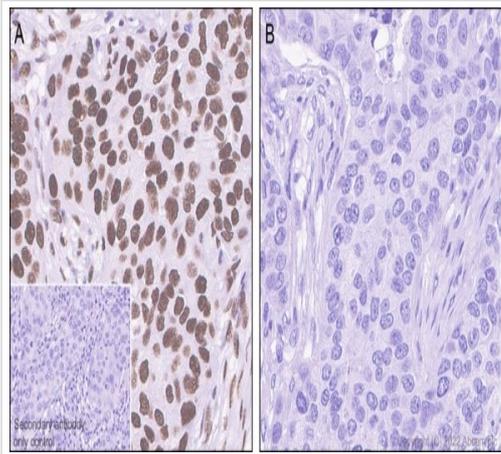
All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

Predicted band size: 57 kDa

Observed band size: 76 kDa

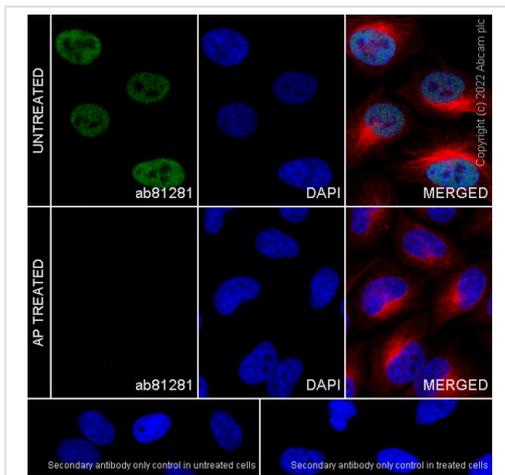
Exposure time: 100 seconds

Blocking and dilution buffer: 5% NFDN/TBST.



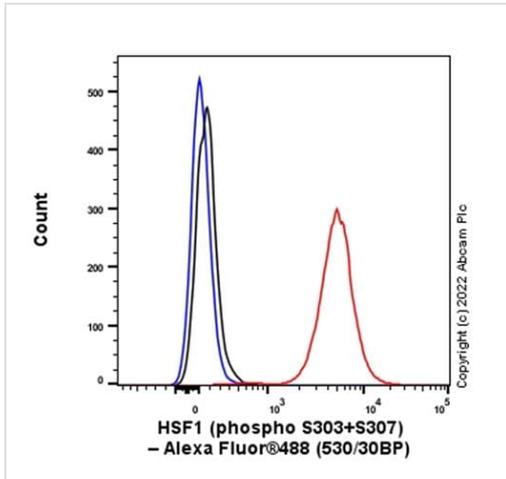
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HSF1 (phospho S303 + S307) antibody [EP1711Y] (ab81281)

Immunohistochemical analysis of paraffin-embedded Human breast carcinoma tissue labelling HSF1 with ab81281 at 1/2000 dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on Human breast carcinoma without alkaline phosphatase treatment (A) compared to no signal detected when treated with alkaline phosphatase (B). The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, epitope retrieval Solution2) for 30 mins. Counterstained with hematoxylin.



Immunocytochemistry/ Immunofluorescence - Anti-HSF1 (phospho S303 + S307) antibody [EP1711Y] (ab81281)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa cells labelling HSF1 with ab81281 at 1/1000 dilution. Confocal image showing cytoplasmic and membranous staining in subsets of HeLa cells. [ab195889](#) AlexaFluor® 594-conjugated Anti-alpha Tubulin was used to counterstain tubulin at 1/200 dilution. The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is [ab150081](#) Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution.



Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa cells labelling HSF1 with ab81281 at 1/90 dilution (Red) compared with an isotype control (Black) and an unlabelled control (Cell without incubation with primary antibody and secondary antibody (Blue)). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, **ab150081**) was used as the secondary antibody.

Flow Cytometry (Intracellular) - Anti-HSF1 (phospho S303 + S307) antibody [EP1711Y] (ab81281)

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