abcam

Product datasheet

Anti-HSF1 antibody [EPR23673-128] ab242138

Recombinant RabMAb

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Overview

Product name	Anti-HSF1 antibody [EPR23673-128]
Description	Rabbit monoclonal [EPR23673-128] to HSF1
Host species	Rabbit
Tested applications	**Suitable for:** WB, Flow Cyt (Intra), ICC/IF, ICC **Unsuitable for:** IHC-P
Species reactivity	**Reacts with:** Mouse, Rat
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Mouse ovary and testis tissue lysates; Rat testis tissue lysate; NIH/3T3 and PC-12 whole cell lysates. ICC/IF: NIH/3T3 and C2C12 cells. Flow Cyt (intra): NIH/3T3 cells.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

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	Preservative: 0.01% Sodium azide Constituents: 59.94% PBS, 40% Glycerol, 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR23673-128
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab242138 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		1/1000. Detects a band of approximately 80 kDa (predicted molecular weight: 57 kDa).
Flow Cyt (Intra)		1/500.
ICC/IF		1/50.
ICC	★★★★☆ (1)	1/50.

Application notes Is unsuitable for IHC-P.

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.

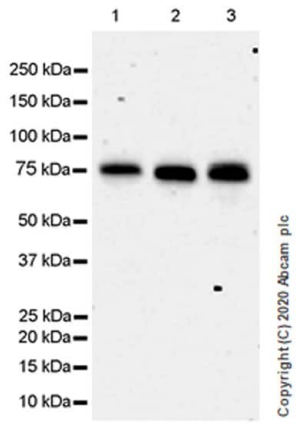
Sequence similarities Belongs to the HSF family.

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 antibody [EPR23673-128] (ab242138)

All lanes : Anti-HSF1 antibody [EPR23673-128] (ab242138) at 1/1000 dilution

Lane 1 : Mouse ovary tissue lysate
Lane 2 : Mouse testis tissue lysate
Lane 3 : Rat testis tissue lysate

Lysates/proteins at 20 µg per lane.

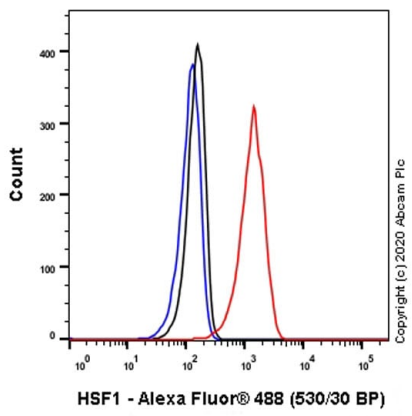
Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (**ab97051**) at 1/50000 dilution

Predicted band size: 57 kDa
Observed band size: 80 kDa

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The expression profile/ molecular weight observed is consistent with what has been described in the literature (PMID: 10747023, 28194040, 27474884).

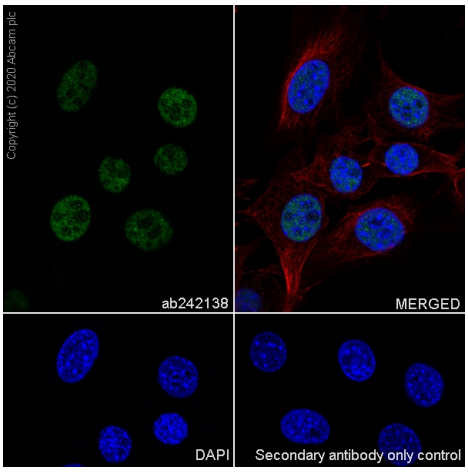
Exposure time: 3 minutes.



Flow Cytometry (Intracellular) - Anti-HSF1 antibody [EPR23673-128] (ab242138)

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed, 90% methanol permeabilized NIH/3T3 (Mouse embryonic fibroblast) cells labelling HSF1 with ab242138 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (**ab172730**) isotype control (Black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

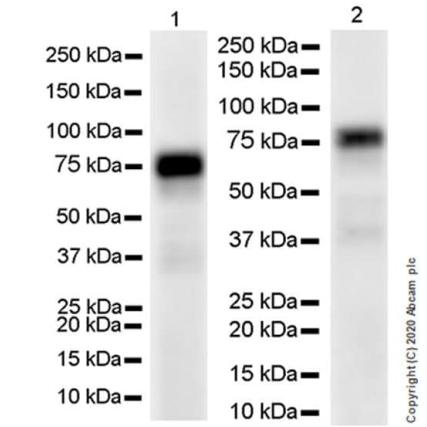
A Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) at 1/2000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-HSF1 antibody [EPR23673-128] (ab242138)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized NIH/3T3 cells labelling HSF1 with ab242138 at 1/50 (9.4 ug/ml) dilution, followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing nuclear staining in NIH/3T3 cells. **ab195889** Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.



Western blot - Anti-HSF1 antibody [EPR23673-128] (ab242138)

All lanes : Anti-HSF1 antibody [EPR23673-128] (ab242138) at 1/1000 dilution

Lane 1 : NIH/3T3 (mouse embryonic fibroblast) whole cell lysate
Lane 2 : PC-12 (rat adrenal gland pheochromocytoma) whole cell lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (**ab97051**) at 1/20000 dilution

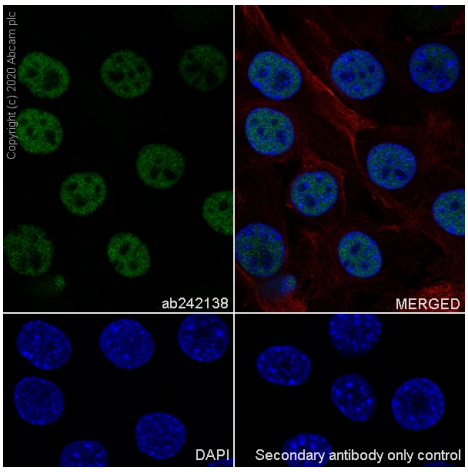
Predicted band size: 57 kDa
Observed band size: 80 kDa

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Lysates were made freshly and used in WB test immediately to minimize protein degradation.

The expression profile/ molecular weight observed is consistent with what has been described in the literature (PMID: 10747023, 28194040, 27474884).

Exposure times: Lane 1: 15 seconds; Lane 2: 37 seconds.



Immunocytochemistry/ Immunofluorescence - Anti-HSF1 antibody [EPR23673-128] (ab242138)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized C2C12 cells labelling HSF1 with ab242138 at 1/50 (9.4 ug/ml) dilution, followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing nuclear staining in C2C12 cells. **ab195889** Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).

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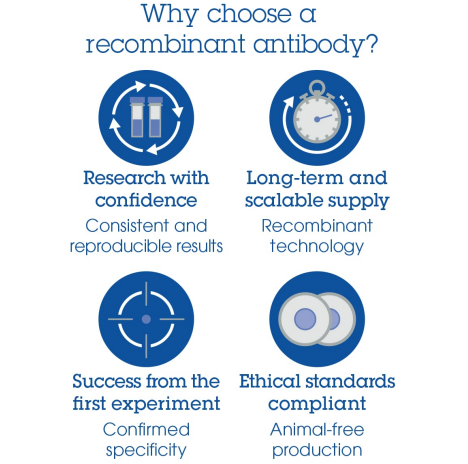

Anti-HSF1 antibody [EPR23673-128] (ab242138)

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