

HSF4 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP56314

Product Information

Application WB, IHC-P, IHC-F, IF, ICC, E

Primary Accession Q9ULV5

Reactivity Rat, Pig, Dog, Bovine

Host Rabbit
Clonality Polyclonal
Calculated MW 53011
Physical State Liquid

Immunogen KLH conjugated synthetic peptide derived from human HSF4

Epitope Specificity 21-120/492

Isotype IgG

Purity affinity purified by Protein A

Buffer 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.

SUBCELLULAR LOCATION Nucleus.

SIMILARITY Belongs to the HSF family.

Post-translational Phosphorylated mainly on serine residues. Phosphorylation on Ser-298 modifications promotes sumoylation on Lys-293. Isoform HSF4B is constitutively

promotes sumoylation on Lys-293. Isoform HSF4B is constitutively sumoylated. Sumoylation represses the transcriptional activity and is promoted by phosphorylation on Ser-298. HSFA is not sumoylated.

DISEASEDefects in HSF4 are the cause of cataract zonular HSF4-related (CZ-HSF4)

[MIM:116800]. A form of zonular cataract. Zonular or lamellar cataracts are opacities, broad or narrow, usually consisting of powdery white dots affecting only certain layers or zones between the cortex and nucleus of an otherwise clear lens. The opacity may be so dense as to render the entire central region of the lens completely opaque, or so translucent that vision is hardly if at all impeded. Zonular cataracts generally do not involve the embryonic nucleus, though sometimes they involve the fetal nucleus. Usually sharply separated from a clear cortex outside them, they may have projections from their outer edges known as riders or spokes. Defects in HSF4 are the cause of cataract Marner type (CAM) [MIM:116800]. A form of cataract with variable and progressive opacities. Affected individuals present with zonular cataract, although some have nuclear, anterior polar, or stellate cataract. Finger

malformation is observed in some kindreds.

Important Note This product as supplied is intended for research use only, not for use in

human, therapeutic or diagnostic applications.

Background Descriptions Heat-shock transcription factors (HSFs) activate heat-shock response genes

under conditions of heat or other stresses. HSF4 lacks the carboxyl-terminal hydrophobic repeat which is shared among all vertebrate HSFs and has been suggested to be involved in the negative regulation of DNA binding activity.

Two alternatively spliced transcripts encoding distinct isoforms and

possessing different transcriptional activity have been described. [provided by

RefSeq, Jul 2008]

Additional Information

Gene ID 3299

Other Names Heat shock factor protein 4, HSF 4, hHSF4, Heat shock transcription factor 4,

HSTF 4, HSF4

Target/Specificity Expressed in heart, skeletal muscle, eye and brain, and at much lower levels

in some other tissues.

Dilution WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-50

0,ELISA=1:5000-10000

Storage Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody

is stable for at least two weeks at 2-4 °C.

Protein Information

Name HSF4

Function Heat-shock transcription factor that specifically binds heat shock promoter

elements (HSE) (PubMed:22587838, PubMed:23507146). Required for denucleation and organelle rupture and degradation that occur during eye lens terminal differentiation, when fiber cells that compose the lens degrade all membrane-bound organelles in order to provide lens with transparency to allow the passage of light (By similarity). In this process, may regulate

denucleation of lens fiber cells in part by activating DNASE2B transcription (By

similarity). May be involved in DNA repair through the transcriptional regulation of RAD51 (PubMed:22587838). May up-regulate p53/TP53 protein

in eye lens fiber cells, possibly through protein stabilization (PubMed: <u>28981088</u>). In the eye lens, controls the expression of

alpha-crystallin B chain/CRYAB and consequently may be involved in the

regulation of lysosomal acidification (By similarity).

Cellular Location Nucleus.

Tissue Location Expressed in heart, skeletal muscle, eye and brain, and at much lower levels

in some other tissues

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.