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Product no AS08 348

HSP70 | Heat shock protein 70 (chloroplastic)

Product information

Background	**Heat-shock protein 70** (Hsp70) is the major stress-inducible protein in vertebrates and is highly conserved throughout evolution. It plays a role as a molecular chaperone and is important for allowing cells to cope with acute stressor insult, especially those affecting the protein machinery. Heat shock cognate protein 70 (HSC70), is a highly conserved protein and a member of the family of molecular chaperones.
Immunogen	KLH-conjugated synthetic peptide derived from higher plant chloroplastic HSP70, inluding *Arabidopsis thaliana* cpHSC70-1, At4g24280 and cpHSC70-2, At5g49910
Host	Rabbit
Clonality	Polyclonal
Purity	Serum
Format	Lyophilized
Quantity	200 µl
Reconstitution	For reconstitution add 200 µl of sterile water.
Storage	Store lyophilized/reconstituted at -20°C; once reconstituted make aliquots to avoid repeated freeze-thaw cycles. Please, remember to spin tubes briefly prior to opening them to avoid any losses that might occur from lyophilized material adhering to the cap or sides of the tubes.
Tested applications	Immunoprecipitation (IP), Western blot (WB)
Related products	AS08 371 | anti-HSP70 | heat shock protein 70 cytoplasmic, rabbit antibodies AS08 347 | anti-HSP70 | heat shock protein 70, mitochondrial, rabbit antibodies collection of antibodies to plant heat shock proteins

Application information

Recommended dilution	1 : 100 (IP), 1 : 2000 (WB)
Expected | apparent MW	76 | 70 kDa
Confirmed reactivity	*Arabidopsis thaliana, Hordeum spontaneum, Hordeum vulgare, Oryza sativa, Pinus strobus, Pisum sativum*
Predicted reactivity	*Arundo donax, Brachypodium distachyon, Brassica rapa subsp. pekinensis, Brassica napus, Capsella rubella, Citrus clementina, Citrus sinensis, Coffea canephora, Glycine max, Glycine soja, Hordeum vulgare, Medicago trancatula, Oryza sativa, Phaseolus vulgaris, Physomitrella patensm, Picea sitchemsis, Populus trichocarpa, Prunus persica, Ricinus communis, Solanum tuberosum, Solanum lycopersicum, Sorghum bicolor, Spinacia oleracea, Theobroma cacao, Triticum aestivum, Zea mays, Vitis vinifera* Species of your interest not listed? Contact us
Not reactive in	No confirmed exceptions from predicted reactivity are currently known.
Selected references	Dogra et al. (2019). Impaired PSII proteostasis triggers an UPR-like response in the var2 mutant of Arabidopsis thaliana. J Exp Bot. 2019 Apr 16. pii: erz151. doi: 10.1093/jxb/erz151. Chen et al. (2018). TIC236 links the outer and inner membrane translocons of the chloroplast. Nature. 2018 Dec;564(7734):125-129. doi: 10.1038/s41586-018-0713-y. Lentini et al. (2018). Early responses to cadmium exposure in barley plants: effects on biometric and physiological parameters. Acta Physiol Plant (2018) 40: 178. https://doi.org/10.1007/s11738-018-2752-2. Yoon et al. (2018). The subfamily II catalytic subunits of protein phosphatase 2A (PP2A) are involved in cortical microtubule organization. Planta. 2018 Sep 6. doi: 10.1007/s00425-018-3000-0. Wu et al. (2018). Control of Retrograde Signaling by Rapid Turnover of GENOMES UNCOUPLED 1. Plant Physiol. 2018 Jan 24. pii: pp.00009.2018. doi: 10.1104/pp.18.00009.

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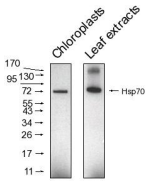
Shen et al. (2016). The Arabidopsis polyamine transporter LHR1/PUT3 modulates heat responsive gene expression by enhancing mRNA stability. Plant J. 2016 Aug 19. doi: 10.1111/tpj.13310. [Epub ahead of print]
Jedmowski et al. (2014). Comparative analysis of drought stress effects on photosynthesis of Eurasian and North African genotypes of wild barley. Photosynthetica, September 2014.

For high resolution images, please visit the specific product page at www.agrisera.com

Application example



Total protein from *Arabidopsis thaliana* chloroplasts (20 µg) and ,*Arabidopsis thaliana* leaf extracts (25 µg) were separated on 10% acrilamide gel and electrophoresis prepared according to Schägger and von Jagov (Anl. Biochem., 1987, 166:368-379). After running the gel, proteins were transferred to nitrocellulose membrane using wet transfer (0.22% CAPS, pH 11). Transfer was checked by Ponceau S staining. Blot was destained by several quick washings in distilled water and 1 washing in 1X TBS (10 mM T pH 7.5, 150 mM NaCl) (10-15 min.).Blot was blocked by 1.5 hour in 5% milk in TBST (1X TBS, 0,1 20) After blocking blot was washed quickly twice in TBST and incubated 2 hours with primary antibody (dilution 1: 2000 TBST (dilution 1:1000). Washing: two quick washings in TBST and 3 x 10 min. washings in TBST. Then blot was incubated 45-60 min. with a secondary anti-rabbit antibodies conjugated to peroxidase (dilution 1:10000) in TBST. Washing: as above. After washing blot was incubated 1-2 min. in ECL solution and exposed to Kodak autoradiography film. Exposure time was 10 seconds.

Courtesy Dr. J. Piechota, Wrocław University, Poland