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Product no AS08 348

Anti-HSP70 | Heat shock protein 70 (chloroplastic)

Product information

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 the tubes briefly prior to opening them to avoid any losses that might occur from material adhering to the cap or sides of the tube.

Application information

Recommended dilution	1 : 100 (IP), 1 : 2000 (WB)
Expected | apparent MW	76 | 70 kDa
Confirmed reactivity	*Arabidopsis thaliana, Brassica napus, 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	Mu et al. (2024). Plastid HSP90C C-terminal extension region plays a regulatory role in chaperone activity and client binding.Plant J. 2024 Jul 5.doi: 10.1111/tpj.16917. Stachurska et al. (2023),. Insight into Hormonal Homeostasis and the Accumulation of Selected Heat Shock Proteins in Cold Acclimated and Deacclimated Winter Oilseed Rape (Brassica napus L.). Agriculture 2023, 13, 641. Idowu et al. (2022). Nitrogen fertilizer application does not always improve available carbohydrate per spikelet but decreases chalkiness under high temperature in rice (Oryza sativa L.) grains, Field Crops Research,Volume 290, 2023,108741, ISSN 0378-4290, https://doi.org/10.1016/j.fcr.2022.108741. Chang et al. (2023). Chloroplast import motor subunits FtsHi1 and FtsHi2 are located on opposite sides of the inner envelope membrane. PNAS. 2023 Sep 12;120(37):e2307747120.doi: 10.1073/pnas.2307747120. Epub 2023 Sep 5. Lee et al (2021). Chaperone-like protein DAY plays critical roles in photomorphogenesis. Nat Commun. 2021 Jul 7;12(1):4194. doi: 10.1038/s41467-021-24446-5. PMID: 34234144; PMCID: PMC8263706. Jeran et al. (2021) The PUB4 E3 Ubiquitin Ligase Is Responsible for the Variegated Phenotype Observed upon Alteration of Chloroplast Protein Homeostasis in Arabidopsis Cotyledons. Genes (Basel). 2021 Sep 6;12(9):1387. doi: 10.3390/genes12091387. PMID: 34573369; PMCID: PMC8464772. 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. 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. 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.

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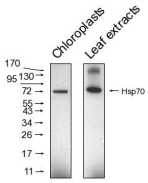

Total protein from *Arabidopsis thaliana* chloroplasts (20 µg) and ,*Arabidopsis thaliana* leaf extracts (25 µg) were separated on 10% acrilamide gel and electrophoresis prepared according to Schägger and von Jagov (Anl. Biochem., 1987, 166:368-379). After running the gel, proteins were transferred to 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