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Product no **AS08 371**

HSP70 | Heat shock protein 70 (cytoplasmic)

Product information

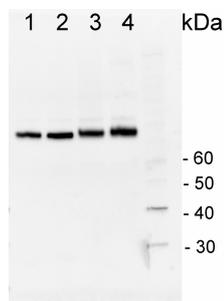
Immunogen	KLH-conjugated synthetic peptide conserved in known higher plant HSC70 proteins including three isoforms of <i>Arabidopsis thaliana</i> HSC70-1 UniProt: F4KCE5 , HSC70-2 UniProt: A0A178UTH3 and HSC70-3 UniProt: O65719 as well as heat shock inducible Hsp70 of <i>Arabidopsis thaliana</i> TAIR: AT3g12580/T2E22_110 and At1g16030 and AT3g12580/T2E22_110
Host	Rabbit
Clonality	Polyclonal
Purity	Serum
Format	Lyophilized
Quantity	50 µl
Reconstitution	For reconstitution add 50 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.
Additional information	This product can be sold containing ProClin if requested.

Application information

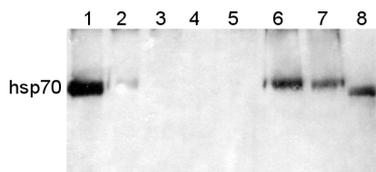
Recommended dilution	1 : 3000 - 1 : 10 000, 5 µg protein/well (WB), 2-3 µl/protein extract of concentration 3-5 mg/ml
Expected apparent MW	70 kDa
Confirmed reactivity	<i>Arabidopsis thaliana</i> , <i>Chlamydomonas reinhardtii</i> , <i>Chlamydomonas sp. UWO241</i> , <i>Cucumis sativus</i> , <i>E. teft</i> , <i>Fagopyrum esculentum</i> , <i>Hordeum vulgare</i> , <i>Medicago sativa</i> , <i>Oryza sativa</i> , <i>Salicornia sp.</i> , <i>Silene vulgaris</i> , <i>Solanum lycopersicum</i> , <i>Pinus strobus</i> , <i>Polyscias elegans</i> , <i>Zea mays</i> , algae: <i>Desmodesmus subspicatus</i> , <i>Gracilaria vermiculophylla</i> , phycobiont: <i>Trebouxia TR1 and TR9</i> , <i>Plasmodium falciparum</i> , <i>Setaria italica</i> , <i>Triticum aestivum</i> , <i>Ulva prolifera</i> , <i>Vicia faba</i>
Predicted reactivity	<i>Ageratina adenophora</i> , <i>Allium sativum</i> , <i>Arabis alpina</i> , <i>Arachis diogeni</i> , <i>Arundo donax</i> , <i>Brassica napus</i> , <i>brassica rapa subsp. pekinensis</i> , <i>Camellia sinensis</i> , <i>Citrus sinensis</i> , <i>Coffea arabica</i> , <i>Eriobotrya japonica</i> , <i>Gossypium arboreum</i> , <i>Glycine max</i> , <i>Glycine soja</i> , <i>Helianthus annuus</i> , <i>Hordeum vulgare var. distichum</i> , <i>Lotus japonicus</i> , <i>Medicago sativa</i> , <i>medicago truncatula</i> , <i>Musa acuminata subsp. malaccensis</i> , <i>Nannochloropsis gaditana</i> , <i>Nicotiana tabacum</i> , <i>Nicotiana bethamiana</i> , <i>Phaseolus vulgaris</i> , <i>Physcomitrella patens</i> , <i>Pinus taeda</i> , <i>Pisum sativum</i> , <i>Populus balsamifera</i> , <i>Populus trichocarpa</i> , <i>Salix gilgiana</i> , <i>Saussurea medusa</i> , <i>Solanum tuberosum</i> , <i>Solanum commersonii</i> , <i>Spinacia oleracea</i> , <i>Tragopogon dubius</i> , <i>Tragopogon porrifolius</i> , <i>Triticum aestivum</i> , <i>Vitis vinifera</i> , <i>Volvox sp.</i> Species of your interest not listed? Contact us
Not reactive in	No confirmed exceptions from predicted reactivity are currently known.
Additional information	Can be sold containing 0.1% ProClin if requested This antibody can be used as a marker of cytoplasmic fraction in tomato (Anfoka et al. 2015). Applied primary antibody dilution in western blot depends upon sensitivity of detection reagents (pico or femtogram for chemiluminescent detection). Immunoprecipitation protocol using Agrisera anti-Hsp70 cytosolic antibodies, see tab: protocols. For high resolution images, please visit the specific product page at www.agrisera.com
Selected references	Plazek et al. (2020) . Synthesis of heat-shock proteins HSP-70 and HSP-90 in flowers of common buckwheat (<i>Fagopyrum esculentum</i>) under thermal stress. <i>Crop and Pasture Science</i> , 71(8), 760-767, July 2020

- [Azaiez et al. \(2020\)](#). Salt Stress Induces Differentiated Nitrogen Uptake and Antioxidant Responses in Two Contrasting Barley Landraces from MENA Region. *Agronomy* 10, no. 9: 1426.
- [Sadura et al. \(2020\)](#). HSP Transcript and Protein Accumulation in Brassinosteroid Barley Mutants Acclimated to Low and High Temperatures. *Int J Mol Sci*. 2020 Mar 10;21(5):1889.doi: 10.3390/ijms21051889.
- [Tabassum et al. \(2020\)](#). FLOURY ENDOSPERM11-2 Encodes Plastid HSP70-2 Involved With Temperature-Dependent Chalkiness of Rice (*Oryza Sativa* L.) Grains. *Plant J*. 10.1111/tpj.14752
- [Rowarth et al. \(2019\)](#). Hsp70 plays a role in programmed cell death during the remodelling of leaves of the lace plant (*Aponogeton madagascariensis*). *J Exp Bot*. 2019 Nov 6. pii: erz447. doi: 10.1093/jxb/erz447

Application example

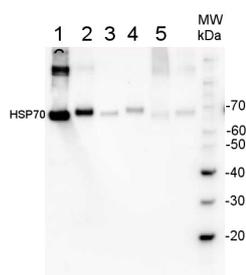


1 µg of total protein from *Hordeum vulgare* pre heat shock leaf (1), *Hordeum vulgare* post heat shock (2h 40°C) (2), *Zea mays* pre heat shock total protein leaf (3), *Zea mays* post heat shock (2h 40°C) (4), total protein leaf extracted with Agrisera Protein Extraction Buffer (**AS08 300**) were separated on **4-12% NuPage** (Invitrogen) **LDS-PAGE** and blotted 1h to PVDF (**Milipore**). Filters were blocked 1h with 2% low-fat **milk powder** in TBS-T (0.1% TWEEN 20) and probed with anti-HSP70 antibody (AS08 371, **1:20 000**, 1h) and secondary anti-rabbit (**1:20 000**, 1 h) antibody (HRP conjugated) in TBS-T containing 2% low fat milk powder. All steps were performed at RT with agitation. Signal was detected with chemiluminescent detection reagent with extreme femtogram range.



Protein from *Solanum lycopersicum* (1) total cell extract ca. 30-50 µg, (2) and (3) nuclei pellet, (4) and (5) ca. 7 µg of nuclei fraction, (6) and (7) cytoplasmic pellet, (8) ca. 7 µg of cytoplasm fraction, were separated on **10% SDS-PAGE** and blotted 1h to nitrocellulose (**Schleicher & Schuell**). Filters were blocked 1h with 2% low-fat **milk powder** in TBS-T (0.1% TWEEN 20) and probed with anti-HSP70 antibody (AS08 371, **1:5000**, 3h RT). The antibody solution was decanted and the blot was rinsed briefly. Washed 3 times for 15 min in TBS-T at room temperature with agitation. Blot was incubated with a secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated) diluted to 1:5000. The blot was washed as above and developed for 1 min with ECL detection reagent according to the manufacturers instructions.

Courtesy Dr Rena Gorovits, The Hebrew University of Jerusalem, Israel



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200 fmoles of HSP70 protein standard product number AS08 371S **(1)**, 1 µg of total protein from samples such as *Lycopersicum esculentum* leaf **(2)**, *Nicotiana tabaccum* leaf, **(3)**, *Zea mays* leaf **(4)**, *Hordeum vulgare* leaf **(5)**, *Arabidopsis thaliana* leaf **(6)** were extracted with Agrisera Protein Extraction Buffer PEB ([AS08 300](#)). Samples were diluted with 1X sample buffer (NuPAGE LDS sample buffer (Invitrogen) supplemented with 50 mM DTT and heat at 70°C for 5 min and kept on ice before loading. Protein samples were separated on 4- 12% Bolt Plus gels, LDS-PAGE and blotted for 70 minutes to PVDF using tank transfer. Blots were blocked immediately following transfer in 2% blocking reagent or 5% non-fat milk dissolved in 20 mM Tris, 137 mM sodium chloride pH 7.6 with 0.1% (v/v) Tween-20 (TBS-T) for 1h at room temperature with agitation. Blots were incubated in the primary antibody at a dilution of 1: 10 000 (in blocking reagent) for 1h/RT with agitation. The antibody solution was decanted and the blot was rinsed briefly twice, and then washed 1x15 min and 3x5 min with TBS-T at room temperature with agitation. Blots were incubated in secondary antibody (anti-rabbit IgG horse radish peroxidase conjugated, recommended secondary antibody [AS10 1489](#), Agrisera) diluted to 1:25 000 in blocking reagent for 1h at room temperature with agitation. The blots were washed as above. The blot was developed for 5 min with chemiluminescence detection reagent in extreme femtogram range, according the manufacturers instructions. Images of the blots were obtained using a CCD imager (VersaDoc MP 4000) and Quantity One software (Bio-Rad). Exposure time was 30 seconds.