

product **AS08 371**
HSP70 | heat shock protein 70 cytoplasmic

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	<u>KLH</u> -conjugated synthetic peptide conserved in known higher plant HSC70 proteins including three isoforms of <i>Arabidopsis thaliana</i> HSC70-1 (<u>NP_001119156.1</u>), HSC70-2 (<u>NP_195869.1</u>) and HSC70-3 (<u>NP_187555.1</u>) as well as heat shock inducible Hsp70 of <i>Arabidopsis thaliana</i> <u>AT3g12580/T2E22_110</u> and <u>At1g16030</u> and <u>AT3g12580/T2E22_110</u>
antibody format	polyclonal serum rabbit lyophilized
quantity	50 µl 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.
tested applications	western blot (WB), immunoprecipitation (IP)
related products	<u>AS08 348</u> anti-chloroplastic HSP70 <u>AS08 347</u> anti-mitochondrial HSP70
additional information	Immunoprecipitation protocol using Agrisera anti-Hsp70 cytosolic antibodies can be found here .

application information

recommended dilution	1: 3000 with standard ECL on 5 µg of protein per 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>Cucumis sativus</i> , <i>E. teft</i> , <i>Hordeum vulgare</i> , <i>Silene vulgaris</i> , <i>Solanum lycopersicum</i> , <i>Pinus strobus</i> , <i>Zea mays</i> , algae: <i>Desmodesmus subspicatus</i> , phycobiont: <i>Trebouxia TR1</i> and <i>TR9</i> , <i>Plasmodium falciparum</i>
predicted reactivity	<i>Chlamydomonas reinhardtii</i> , <i>Glycine max</i> , <i>Hordeum vulgare</i> var. <i>distichum</i> , <i>Medicago sativa</i> , <i>medicago truncatula</i> , <i>Nicotiana tabacum</i> , <i>Nicotiana bethamiana</i> , <i>Oryza sativa</i> , <i>Phaseolus vulgaris</i> , <i>Physcomitrella patens</i> , <i>Pisum sativum</i> , <i>Populus balsamifera</i> , <i>Solanum tuberosum</i> , <i>Solanum commersonii</i> , <i>Triticum aestivum</i> , <i>Vitis vinifera</i> , <i>Volvox</i> sp. <i>Arundo donax</i> , <i>Brassica napus</i> , <i>brassica rapa</i> subsp. <i>pekinensis</i> , <i>Camellia sinensis</i> , <i>Lotus japonicus</i> , <i>Pinus taeda</i> , <i>Eriobotrya japonica</i> , <i>Glycine soja</i> , <i>Populus trichocarpa</i> , <i>Tragopogon porrifolius</i> , <i>Tragopogon dubius</i> , <i>Arachis diogeni</i> , <i>Musa acuminata</i> subsp. <i>malaccensis</i> , <i>Coffea arabica</i> , <i>Ageratina adenophora</i> , <i>Citrus sinensis</i> , <i>Arabis alpina</i> , <i>Allium sativum</i> , <i>Salix gilgiana</i> , <i>Saussurea medusa</i> , <i>Gossypium arboreum</i>
not reactive in	no confirmed exceptions from predicted reactivity known in the moment

additional information | not available at the moment

selected references

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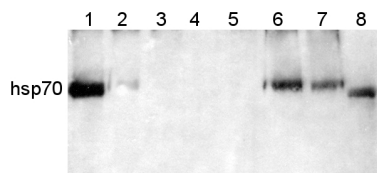
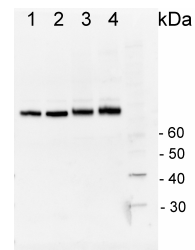
Hazlina et al. (2015). Photoinhibition and Development of Stress Proteins in Macroalgae Irradiated with Ultraviolet Radiation. *ASM Sci. J.*, 7(2), 118–128.

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application example

1 µg of total protein from (1) *Hordeum vulgare* pre heat shock leaf extracted with PEB (**AS08 300**), (2) *Hordeum vulgare* post heat shock (2h 40°C) leaf extracted with PEB (**AS08 300**), (3) *Zea mays* pre heat shock total protein leaf extracted with PEB (**AS08 300**), (4) *Zea mays* post heat shock (2h 40°C) total protein leaf extracted with PEB (**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, Abcam) in TBS-T containing 2% low fat milk powder. All steps were performed at RT with agitation. Signal was detected with **ECL Advance** (GE Healthcare)



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, from Sigma) diluted to 1: 5:000. The blot was washed as above and developed for 1 min with ECL detection reagent according to the manufacturers instructions. Courtesy Dr Rena Gorovits