

product **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	<u>KLH</u> -conjugated synthetic peptide derived from higher plant chloroplastic HSP70, including <i>Arabidopsis thaliana</i> <u>cpHSC70-1</u> , <u>At4g24280</u> and <u>cpHSC70-2</u> , <u>At5g49910</u>
antibody format	rabbit polyclonal serum, lyophilized
quantity	200 µl 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	western blot (WB), immunoprecipitation (IP)
related products	<u>AS08 371</u> anti-HSP70 heat shock protein 70 cytoplasmic <u>AS08 347</u> anti-HSP70 heat shock protein 70, mitochondrial <u>collection of antibodies to plant heat shock proteins</u>
additional information	to be added when available

application information

recommended dilution	1: 2000 (WB), 1: 100 (IP)
expected apparent MW	76 70 kDa
confirmed reactivity	<i>Arabidopsis thaliana</i> , <i>Hordeum spontaneum</i> , <i>Oryza sativa</i> , <i>Pinus strobus</i> , <i>Pisum sativum</i>
predicted reactivity	<i>Sorghum bicolor</i> , <i>Arundo donax</i> , <i>Brassica rapa</i> subsp. <i>pekinensis</i> , <i>Brassica napus</i> , <i>Coffea canephora</i> , <i>Theobroma cacao</i> , <i>Brachypodium distachyon</i> , <i>Prunus persica</i> , <i>Ricinus communis</i> , <i>Phaseolus vulgaris</i> , <i>Solanum tuberosum</i> , <i>Solanum lycopersicum</i> , <i>Citrus sinensis</i> , <i>Citrus clementina</i> . dicots including: <i>Spinacia oleracea</i> , <i>Vitis vinifera</i> , <i>Capsella rubella</i> , <i>Medicago truncatula</i> , <i>Glycine max</i> , <i>Glycine soja</i> monocots including: <i>Oryza sativa</i> , <i>Zea mays</i> , <i>Hordeum Vulgare</i> , <i>Triticum aestivum</i> trees: <i>Picea sitchensis</i> , <i>Populus trichocarpa</i> moss: <i>Physomitrella patens</i>
not reactive in	no confirmed exceptions from predicted reactivity known in the moment
additional information	to be added when available
selected references	<u>Jedmowski et al. (2014)</u> . Comparative analysis of drought stress effects on photosynthesis of Eurasian and North African genotypes of wild barley. Photosynthetica, September 2014.

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 (Sigma, 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

