

product **AS08 348**

### HSP70 | heat shock protein 70, chloroplastic

#### product information

<b>background</b>	<b>Heat-shock protein 70 (Hsp70)</b> 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.
<b>immunogen</b>	<u>KLH</u> -conjugated synthetic peptide derived from higher plant chloroplastic HSP70, including <i>Arabidopsis thaliana</i> <u>cpHSC70-1</u> and <u>cpHSC70-2</u>
<b>antibody format</b>	rabbit polyclonal serum, lyophilized
<b>quantity</b>	200 µl for reconstitution add 200 µl of sterile water.
<b>storage</b>	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.
<b>tested applications</b>	western blot (WB), immunoprecipitation (IP)
<b>additional information</b>	to be added when available

#### application information

<b>recommended dilution</b>	1: 2000 (WB), 1: 100 (IP)
<b>expected   apparent MW</b>	76   70 kDa
<b>confirmed reactivity</b>	<i>Arabidopsis thaliana</i> , <i>Oryza sativa</i> , <i>Pisum sativum</i>
<b>predicted reactivity</b>	dicots including: <i>Spinacia oleracea</i> , <i>Vitis vinifera</i> , monocots including: <i>Oryza sativa</i> , <i>Zea mays</i> , trees: <i>Picea sitchensis</i> , moss: <i>Physomitrella patens</i>
<b>not reactive in</b>	no confirmed exceptions from predicted reactivity known in the moment
<b>additional information</b>	to be added when available
<b>selected references</b>	<u>Yu</u> et al. (2011). Comparative proteomic study reveals the involvement of diurnal cycle in cell division, enlargement and

starch accumulation in developing endosperm of *Oryza sativa*.  
J of Proteome Res. Nov, ahead of print

Pai-Hsiang Su and Hsou-min Li (2011). Stromal Hsp70 is important for protein translocation into pea and Arabidopsis chloroplasts. Plant Cell. 22(5):1516-31.

### 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

