Hsc70 (plant, ER, BiP) Monoclonal Antibody (1D9)

Product Specifications

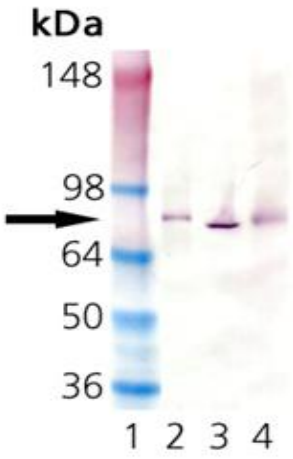
Catalog Number:	SPA-818
Host:	Mouse
Isotype:	$IgG_{1\ Kappa}$
Species Reactivity:	Spinach, orange, carrot, apple, corn, asparagus, potato, lettuce, tomato, *Arabidopsis thaliana* [3], and tobacco[2] Other species not tested.
Application:	WB (Colorimetric, 1:1000), IP Other applications not tested. *The optimal dilution for a specific application must be determined by the investigator*
Predicted MW:	~78 kDa
Concentration:	See product label
Purification:	Protein G Affinity
Format:	PBS, 0.09% azide, 50% glycerol
Storage:	-20°C *Shipping conditions may differ from the recommended storage temperature*
Immunogen:	Recombinant spinach Hsc70 (Hsp73) protein
Related Products:	
SAB-101	Goat anti-Mouse IgG Polyclonal Antibody, AP
SPA-817	Hsc70 (plant, cytosolic) Monoclonal Antibody (5B7)
PLA-100	Dehydrin Polyclonal Antibody

Background:

The endoplasmic reticulum (ER) luminal Hsc70 protein, also known as BiP, is a member of the multigene 70 kDa family of stress proteins which is involved in the proper translocation and processing of secretory proteins passing through the ER. In spinach, BiP is expressed constitutively in all tissues, except dry seeds, and its levels remain constant in response to environmental stresses such as cold acclimation, drought stress or heat shock. This is in contrast to spinach BiP mRNA levels, however, which increase during cold acclimation and decrease in response to drought stress or heat shock. Low temperatures may alter protein biogenesis resulting in an accumulation of misfolded proteins that are chaperoned by the existing pool of free BiP protein which in turn, signals an up-regulation of BiP mRNA. On the other hand, drought stress and heat shock may reduce protein export through the secretory pathway, thus signaling a down-regulation of BiP mRNA[2]. In any case, it appears that the level of constitutively expressed BiP protein is sufficient to maintain proper protein biogenesis when faced with environmental stresses[1].

References:

1. Anderson, J.V., *et al*. (1994) Plant Physiol **104**, 1359-1370.
2. Pontier, D., *et al*. (2002) Plant J **30,** 499-509.
3. Cheng, N.H., *et al*. (2003) Plant Cell **15,** 347-364.



Western Blot Analysis of Hsc70 (plant, ER, BiP): Lane 1: MWM, Lane 2: Apple, Lane 3: Carrot, Lane 4: Spinach.

Generally reagents are good for one year from the date of receipt, except for conjugates which are good for six months and reagents with an expiration date indicated on the label or other supporting document.

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