Hsp104 Polyclonal Antibody

Product Specifications

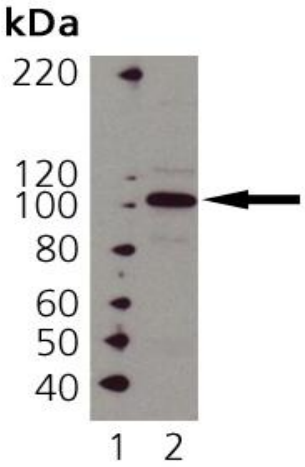
Catalog Number:	SPA-1040
Host:	Rabbit
Species Reactivity:	Yeast Other species not tested.
Application:	WB (ECL, 1:1000) Other applications not tested. *The optimal dilution for a specific application must be determined by the investigator*
Predicted MW:	104 kDa
Concentration:	See product label
Purification:	Protein A Affinity
Format:	PBS, 0.09% azide, 50% glycerol
Storage:	-20°C *Shipping conditions may differ from the recommended storage temperature*
Immunogen:	Synthetic peptide derived from sequence near the carboxy-terminus of yeast Hsp104, conjugated to KLH
Related Products:	
SAB-300	Goat anti-Rabbit IgG Polyclonal Antibody, HRP
SPA-1103	Hsp110 Polyclonal Antibody

Background:

In response to adverse changes in their environment, cells from many organisms increase the expression of a class of proteins referred to as heat shock or stress proteins. The most well recognized are the Hsp70 and Hsp90 families of proteins. More recently discovered is the Hsp100 (Clp) family of proteins that are highly conserved from eukaryotes to bacteria (which includes yeast, plants, and trypanosomes with the exception of *Drosophilia*). They share a common function in helping organisms to survive extreme stress. Hsp100 proteins generally have amino acid sequences of about 900 residues and contain two nucleotide binding sites. The two ATP-binding domains of yeast Hsp104 have different functions. One controls the assembly of the protein into a homoligomeric complex and the other controls most of the ATPase activity. Hsp104 of yeast and ClpB of *E. coli* have significant sequence homology particularly in the two nucleotide binding sites and both of these proteins are required for thermotolerance at extreme temperatures[1,3]. Hsp104 can protect yeast cells against high temperature and high concentrations of ethanol but mutation studies have shown this protein is not required for normal growth. The biochemical activities of Hsp100 proteins that allows them to provide thermotolerance are not currently understood. In yeast, Hsp104 has been observed to possess partial functional interchangeability with the Hsp70 family of proteins. This suggests that both protein families may be performing at least some complementary biological function[2]. Hsp104 might promote the proteolysis of damaged proteins that are not salvageable by Hsp70, or Hsp104 might serve as another chaperone, binding to damaged proteins and promoting refolding.

References:

1. Sanchez, Y. *et al*. (1994) Science **248,** 1112-1115.
2. Sanchez, Y., *et al*. (1993) J Bacteriology **175**, 6484-6491.
3. Sanchez, Y., *et al*. (1992) EMBO J **11**, 2357-2364.



Western Blot Analysis of Hsp104: Lane 1: MWM, Lane 2: Yeast

Assay Designs makes every effort to provide a consistent source of high quality polyclonal antibodies. However, due to variations inherent in this technology, investigators are urged to purchase sufficient quantities of a specific lot number if an identic

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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