

DESCRIPTION

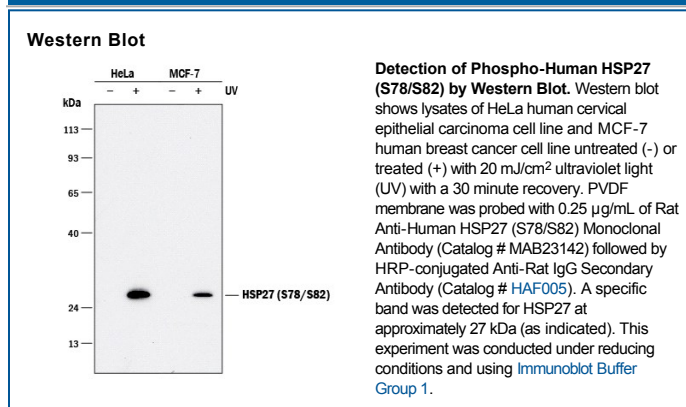
Species Reactivity	Human
Specificity	Detects human HSP27 when dually phosphorylated at S78/S82.
Source	Monoclonal Rat IgG _{2B} Clone # 836370
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Phosphopeptide containing human HSP27 S78/S82 sites Accession # P04792
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	0.25 µg/mL	See Below

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Heat shock proteins (HSPs) are a family of highly conserved stress response proteins. Heat shock proteins function primarily as molecular chaperones by facilitating the folding of other cellular proteins, preventing protein aggregation or targeting improperly folded proteins to specific degradative pathways. HSPs are typically expressed at low levels under normal physiological conditions but are dramatically up-regulated in response to cellular stress. Elevated levels of HSPs have been observed in association with ischemia/reperfusion, cancer, and chronic heart failure. HSP27 is a member of the small heat shock protein family, which also includes HSP25 and the α -crystallins. HSP27 forms a large oligomer and the extent of phosphorylation plays a role in determining specific functions. HSP27 also functions as an anti-apoptotic molecule, regulating apoptosis through direct interaction with key components of the apoptotic pathway. HSP27 binds and sequesters cytochrome c released from the mitochondria in response to an apoptotic stimulus. This prevents the proper assembly of the apoptosome and subsequently, the activation of procaspase-9 and procaspase-3.

References:

1. Gusev, N.B. *et al.* (2002) *Biochemistry (Moscow)* **67**:511.
2. Garrido, C. *et al.* (2001) *Biochem. Biophys. Res. Commun.* **286**:433.
3. Garrido, C. (2002) *Cell Death Differ.* **9**:483.
4. Brvey, J-M. *et al.* (2000) *Nat. Cell Biol.* **2**:645.