

DESCRIPTION	
<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects endogenous human, mouse and rat HSP40 in Western blots.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 419401
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human HSP40 Met1-Ile340 Accession # P25685
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or 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
<b>Western Blot</b>	0.5 µg/mL	See Below
<b>Knockout Validated</b>	HSP40/DNAJB1 is specifically detected in HEK293T human embryonic kidney parental cell line but is not detectable in HSP40/DNAJB1 knockout HEK293T cell line.	

**DATA**

**Western Blot**

**Detection of Human/Mouse/Rat HSP40/DNAJB1 by Western Blot.** Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line, NIH-3T3 mouse embryonic fibroblast cell line, and L6 rat myoblast cell line. PVDF membrane was probed with 0.5 µg/mL of Human/Mouse/Rat HSP40/DNAJB1 Monoclonal Antibody (Catalog # MAB4145) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for HSP40/DNAJB1 at approximately 40 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 2.

**Knockout Validated**

**Western Blot Shows Human HSP40/DNAJB1 Specificity by Using Knockout Cell Line.** Western blot shows lysates of HEK293T human embryonic kidney parental cell line and HSP40 knockout HEK293T cell line (KO). PVDF membrane was probed with 0.5 µg/mL of Mouse Anti-Human/Mouse/Rat HSP40/DNAJB1 Monoclonal Antibody (Catalog # MAB4145) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for HSP40/DNAJB1 at approximately 40 kDa (as indicated) in the parental HEK293T cell line, but is not detectable in knockout HEK293T cell line. GAPDH (Catalog # MAB5718) is shown as a loading control. This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

Heat shock protein 40 kDa (HSP40) is the human homologue of the bacterial DnaJ heat shock protein. HSP40, also known as HSPF1 and DnaJ Homolog subfamily B member 1 (DNAJB1), is a 340 amino acid, 40 kDa member of the heat shock protein family. Heat shock proteins (HSPs) are a highly conserved family of stress response proteins. HSPs function primarily as molecular chaperones, facilitating the folding of other cellular proteins, preventing protein aggregation, or targeting improperly folded proteins to specific degradative pathways. Heat Shock Proteins are ubiquitously expressed in all organisms. They are induced in response to various types of environmental stresses like heat, cold, and oxygen deprivation. HSP40 is a stress inducible chaperone that co-localizes with HSP70 and can bind unfolded proteins and prevent protein denaturation and aggregation. The conserved amino terminal J domain can interact with HSP70 and stimulate its ATPase activity. Human HSP40 shares 95% amino acid identity with mouse and rat HSP40.