

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects endogenous human GRP78 at 78 kDa in Western blots.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 474421
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human GRP78 Met1-Leu654 Accession # P11021
<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 as a 0.2 µm filtered solution in PBS.

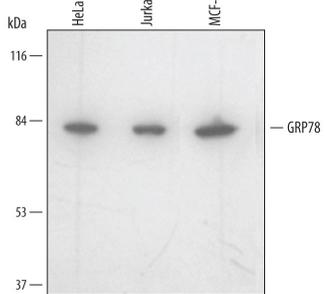
## APPLICATIONS

**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>	1 µg/mL	See Below
<b>Simple Western</b>	10 µg/mL	See Below

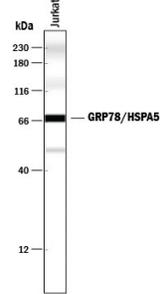
## DATA

**Western Blot**



**Detection of Human GRP78/HSPA5 by Western Blot.** Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line, Jurkat human acute T cell leukemia cell line, and MCF-7 human breast cancer cell line. PVDF membrane was probed with 1 µg/mL of Human GRP78/HSPA5 Monoclonal Antibody (Catalog # MAB4846) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for GRP78/HSPA5 at approximately 78 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 2.

**Simple Western**



**Detection of Human GRP78/HSPA5 by Simple Western™.** Simple Western lane view shows lysates of Jurkat human acute T cell leukemia cell line, loaded at 0.2 mg/mL. A specific band was detected for GRP78/HSPA5 at approximately 72 kDa (as indicated) using 10 µg/mL of Mouse Anti-Human GRP78/HSPA5 Monoclonal Antibody (Catalog # MAB4846). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

\*Non-specific interaction with the 230 kDa Simple Western standard may be seen with this antibody.



## 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>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <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

GRP78 (Glucose-regulated protein 78 kDa; also BIP and HSPA5) is a 72 kDa member of the heat shock protein 70 family of proteins. Intracellularly, GRP78 is an endoplasmic reticulum chaperone that participates in protein folding; extracellularly, it induces IL-10 production from T cells and interacts with Cripto to block TGF-β signaling. Human GRP78 precursor is 654 amino acids (aa) in length. It contains an 18 aa signal sequence and a 636 aa mature region that shows a hydantoinase A region (aa 145-245) and a C-terminal KDEL motif that is present on intracellular GRP78, but absent on secreted GRP78. There is alternative splicing in the signal sequence (aa 1-10), and multiple single aa substitution. Over aa 1-654, human GRP78 is more than 97% aa identical to mouse and rat GRP78.