

DESCRIPTION	
<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects human, mouse, and rat Akt1 in Western blots. In Western blots, no cross-reactivity with recombinant human Akt2 or Akt3 is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>2A</sub> Clone # 232790
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Akt1 Ser2-Ala480 Accession # P31749
<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>	0.2 µg/mL	See Below
<b>Knockout Validated</b>		Akt1 is specifically detected in HeLa human cervical epithelial carcinoma parental cell line but is not detectable in Akt1 knockout HeLa cell line.

**DATA**

**Western Blot**

**Detection of Human, Mouse, and Rat Akt1 by Western Blot.**  
Western blot shows lysates of MBA-MB-123 human breast cancer cell line, C2C12 mouse myoblast cell line, TS1 mouse helper T cell line, and C6 rat glioma cell line. PVDF membrane was probed with 0.2 µg/mL Mouse Anti-Human/Mouse/Rat Akt1 Monoclonal Antibody (Catalog # MAB1775) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band for Akt1 was detected at approximately 60 kDa (as indicated). This experiment was conducted under reducing conditions and using [Immunoblot Buffer Group 3](#).

**Western Blot**

**Detection of Human Akt1 by Western Blot.**  
Western blot shows recombinant human Akt1, Akt2, and Akt3 (5 ng/lane). PVDF membrane was probed with 0.2 µg/mL Mouse Anti-Human/Mouse/Rat Akt1 Monoclonal Antibody (Catalog # MAB1775) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band for Akt1 was detected at approximately 60 kDa (as indicated). This experiment was conducted under reducing conditions and using [Immunoblot Buffer Group 3](#).

**Knockout Validated**

**Western Blot Shows Human Akt1 Specificity by Using Knockout Cell Line.**  
Western blot shows lysates of HeLa human cervical epithelial carcinoma parental cell line and Akt1 knockout HeLa cell line (KO). PVDF membrane was probed with 0.2 µg/mL of Mouse Anti-Human/Mouse/Rat Akt1 Monoclonal Antibody (Catalog # MAB1775) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Akt1 at approximately 72 kDa (as indicated) in the parental HeLa cell line, but is not detectable in knockout HeLa 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>	<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

Akt, also known as protein kinase B (PKB), is a central kinase in such diverse cellular processes as glucose uptake, cell cycle progression, and apoptosis. Three highly homologous members define the Akt family: Akt1 (PKB $\alpha$ ), Akt2 (PKB $\beta$ ), and Akt3 (PKB $\gamma$ ). Akt1 is the most ubiquitously expressed family member. All three Akts contain an amino-terminal pleckstrin homology domain, a central kinase domain, and a carboxyl-terminal regulatory domain.