

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human 14-3-3 $\zeta$ in direct ELISAs and Western blots. Detects Mouse and Rat 14-3-3 $\zeta$ in Western Blots. In direct ELISAs, no cross-reactivity with recombinant human 14-3-3 beta, theta, eta, gamma, sigma, or epsilon is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 818515
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human 14-3-3 $\zeta$ Asp2-Asn245 Accession # P63104
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 $\mu$ m filtered solution in PBS.

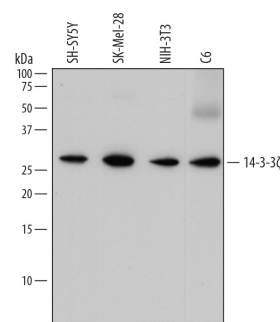
## APPLICATIONS

**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 $\mu$ g/mL	See Below
<b>Immunohistochemistry</b>	8-25 $\mu$ g/mL	See Below
<b>Simple Western</b>	2 $\mu$ g/mL	See Below

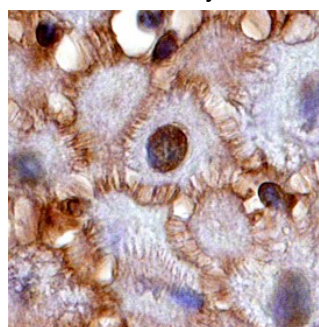
## DATA

### Western Blot



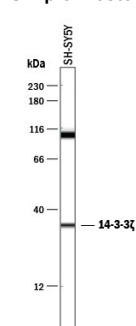
**Detection of Human, Mouse, and Rat 14-3-3 $\zeta$  by Western Blot.** Western blot shows lysates of SH-SY5Y human neuroblastoma cell line, SK-Mel-28 human malignant melanoma cell line, NIH-3T3 mouse embryonic fibroblast cell line, and C6 rat glioma cell line. PVDF membrane was probed with 0.2  $\mu$ g/mL of Mouse Anti-Human 14-3-3 $\zeta$  Monoclonal Antibody (Catalog # MAB2669) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for 14-3-3 $\zeta$  at approximately 27 kDa (as indicated). This experiment was conducted under reducing conditions and using *Immunoblot Buffer Group 1*.

### Immunohistochemistry



**14-3-3 $\zeta$  in Human Squamous Cell Carcinoma.** 14-3-3 $\zeta$  was detected in immersion fixed paraffin-embedded sections of human squamous cell carcinoma using Mouse Anti-Human 14-3-3 $\zeta$  Monoclonal Antibody (Catalog # MAB2669) at 15  $\mu$ g/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counter-stained with hematoxylin (blue). Specific staining was localized to nuclei and plasma membrane. View our protocol for *Chromogenic IHC Staining of Paraffin-embedded Tissue Sections*.

### Simple Western



**Detection of Human 14-3-3 $\zeta$  by Simple Western™.** Simple Western lane view shows lysates of SH-SY5Y human neuroblastoma cell line, loaded at 0.5 mg/mL. A specific band was detected for 14-3-3 $\zeta$  at approximately 34 kDa (as indicated) using 2  $\mu$ g/mL of Mouse Anti-Human 14-3-3 $\zeta$  Monoclonal Antibody (Catalog # MAB2669). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.5 mg/mL.
<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**

14-3-3 proteins are a highly conserved family of homo- and heterodimeric phosphoserine/threonine-binding proteins present in high abundance in all eukaryotic cells. 14-3-3 proteins were the first polypeptides shown to have pSer/Thr binding properties, generally recognizing the consensus sequences RSXpSXP and RXY/FXpSXP (where X is any amino acid). 14-3-3 proteins act as key regulators of intracellular signal transduction through their ability to bind specific motifs phosphorylated on serine or threonine. For example, the binding of 14-3-3 to phosphorylated BAD blocks its proapoptotic association with Bcl-XL. There are at least seven distinct 14-3-3 genes in vertebrates, alpha/beta, epsilon, gamma, theta, sigma and zeta ( $\alpha/\beta$ ,  $\epsilon$ ,  $\eta$ ,  $\gamma$ ,  $\tau/\theta$ ,  $\sigma$ , and  $\zeta/\delta$ ). 14-3-3 zeta, also known as Tyrosine 3-Monooxygenase/Tryptophan 5-Monooxygenase Activation Protein, zeta isoform (gene name YWHAZ) is a 245 amino acid, 27 kDa protein.