**DESCRIPTION**

**Species Reactivity**
Human

**Specificity**
Detects human 14-3-3ζ in direct ELISAs and Western blots. Detects Mouse and Rat 14-3-3ζ in Western Blots. In direct ELISAs, no cross-reactivity with recombinant human 14-3-3 beta, theta, eta, gamma, sigma, or epsilon is observed.

**Source**
Monoclonal Mouse IgG2B Clone # 818515

**Purification**
Protein A or G purified from hybridoma culture supernatant

**Immunogen**
E. coli-derived recombinant human 14-3-3ζ, Asp2-Asn245
Accession # P63104

**Formulation**
Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

*Small pack size (SP) is shipped with polar packs. Upon receipt, store it immediately at 20 to 30 °C as supplied.

**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.

<table>
<thead>
<tr>
<th>Recommended Concentration</th>
<th>Sample</th>
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<tbody>
<tr>
<td>0.2 μg/mL</td>
<td>See Below</td>
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<tr>
<td>8-25 μg/mL</td>
<td>See Below</td>
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<tr>
<td>2 μg/mL</td>
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**DATA**

**Western Blot**
Detection of Human, Mouse, and Rat 14-3-3ζ 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 μg/mL of Mouse Anti-Human 14-3-3ζ Monoclonal Antibody (Catalog # MAB2669) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # CTS013). A specific band was detected for 14-3-3ζ at approximately 27 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

**Immunohistochemistry**

14-3-3ζ in Human Squamous Cell Carcinoma. 14-3-3ζ was detected in immersion fixed paraffin-embedded sections of human squamous cell carcinoma using Mouse Anti-Human 14-3-3ζ Monoclonal Antibody (Catalog # MAB2669) at 15 μg/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 counterstained 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 14-3-3ζ 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 14-3-3ζ at approximately 34 kDa (as indicated) using 2 μg/mL of Mouse Anti-Human 14-3-3ζ Monoclonal Antibody (Catalog # MAB2669). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

**PREPARATION AND STORAGE**

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

**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.
- 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.
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, eta, gamma, theta, sigma and zeta (α/β, ε, η, γ, θ, σ, and ζ). 14-3-3 zeta, also known as Tyrosine 3-Monoxygenase/Tryptophan 5-Monoxygenase Activation Protein, zeta isoform (gene name YWHAZ) is a 245 amino acid, 27 kDa protein.