

## DESCRIPTION

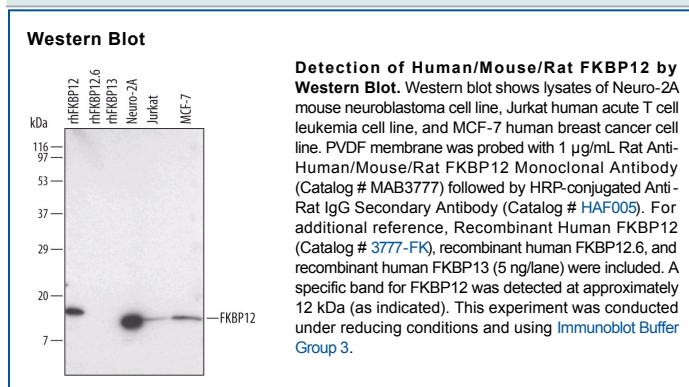
<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects human, mouse, and rat FKBP12 in Western blots. In Western blots, no cross-reactivity with other FKBP family members is observed.
<b>Source</b>	Monoclonal Rat IgG <sub>2B</sub> Clone # 422513
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human FKBP12 Gly2-Glu108 Accession # P62942
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

## 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

## DATA



## 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.
<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

FK506 binding protein, 12 kilodalton molecular weight (FKBP12), also called FKBP1, was originally characterized as a peptidyl-prolyl isomerase that catalyzes the transition between cis- and trans-proline residues critical for proper folding of proteins. Proline isomerase activity was demonstrated but not used for quality control. The macrolide immunosuppressants FK506 (Tacrolimus) and rapamycin bind to FKBP12 with high affinity, while the structurally related compound cyclosporine binds with a much lower affinity (1). The binding of these drugs causes FKBP12 to become a potent inhibitor of calcineurin phosphatase activity (2) and TOR kinase activity (3). The inhibition of protein phosphatase activity is highly selective for calcineurin (2), making the FK506/FKBP12 complex a useful tool in the study of this enzyme. Knockout mice lacking FKBP12 are morphologically normal, but develop cardiomyopathies that may be related to dysregulation of ryanodine receptors (4).

## References:

1. Hamilton, G.S. and J.P. Steiner (1998) *J. Med. Chem.* **41**:5119.
2. Liu, J. *et al.* (1992) *Biochemistry* **31**:3896.
3. Toral-Barza, L. *et al.* (2005) *Biochem. Biophys. Res. Comm.* **332**:304.
4. Hamilton, S.L. and M.M. Matzuk (1998) *Nature* **391**:489.