

DESCRIPTION

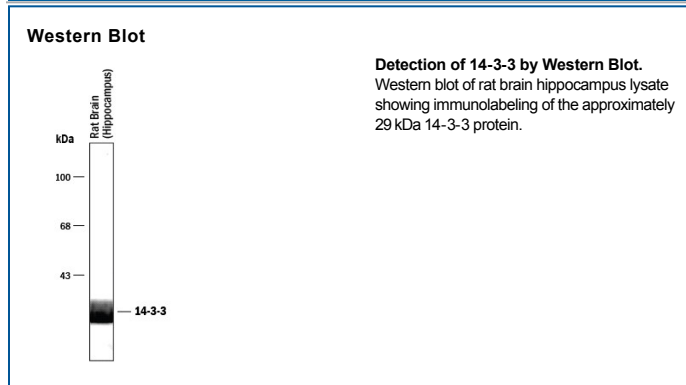
Species Reactivity	Human/Mouse/Rat/Bovine/Canine/Chicken/Primate/ <i>Xenopus</i> /Zebrafish
Specificity	This antibody is specific for the 29 kDa 14-3-3 in Western blots of rat hippocampal lysates.
Source	Polyclonal Rabbit IgG
Purification	Antigen Affinity-purified
Immunogen	14-3-3
Formulation	100 µL in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA and 50% glycerol. 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
Western Blot	1:1000 dilution	See Below

DATA



PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	For long-term storage, ≤ -20° C is recommended. Product is stable at ≤ -20° C for at least 1 year.

BACKGROUND

14-3-3 is a general name given to seven ubiquitously expressed, 28 kDa proteins that are the products of related, but separate genes. They are considered isoforms and are named eta (η), gamma (γ), delta/zeta (δ/ζ), alpha/beta (α/β), theta/tau (θ/τ), sigma (σ) and epsilon (ϵ). The first molecule was named for its 14th DEAE elution fraction and 3.3 migration pattern on gel electrophoresis. All seven molecules range from 245-255 amino acids in length and exhibit nine α -helices arranged in an antiparallel fashion. Overall amino acid sequence identity is approximately 49%, with most identity limited to six blocks of six or more amino acids. The invariant amino acids create a negatively-charged channel that is common to all isoforms. 14-3-3 proteins are known to bind over 200 client (mostly phosphorylated) proteins. The 14-3-3s are highly versatile, inhibiting, activating, linking and transporting a myriad of unrelated targets. They participate in all cellular processes. 14-3-3 proteins are both homodimers and heterodimers and also exist as monomers. Dimeric 14-3-3 generally binds to phosphorylated targets, generating some type of response. Monomeric 14-3-3 also appears to bind to the same targets, but without generating a response. The transition from dimer to monomer is controlled by phosphorylation, particularly by SKD1. The favored site for this phosphorylation is S59 on the eta and gamma isoforms, S58 on the zeta/delta isoform, and S60 on the alpha/beta isoform; tau, sigma and epsilon do not contain favorable motifs for phosphorylation.

References:

1. Aitken, A. (2006) *Semin. Cancer Biol.* **16**:162.
2. Woodcock, J.M. *et al.* (2003) *J. Biol. Chem.* **278**:36323.
3. Muslin, A.J. *et al.* (1996) *Cell* **84**:889.
4. Hamaguchi, A. *et al.* (2003) *Biochem. Biophys. Res. Commun.* **307**:589.
5. Aitken, A. *et al.* (2002) *Biochem. Soc. Trans.* **30**:351.