

Anti-14-3-3 β/ζ



TECHNICAL SPECIFICATIONS

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Mouse Anti-14-3-3 β/ζ Monoclonal Antibody Product #: KAM-CC012

Immunogen

Lysed transformed human amnion cells (AMA).

Specificity

This affinity purified antibody detects ~29-30 kDa proteins, corresponding to the apparent molecular mass of the β and ζ isoforms (6) of 14-3-3 on SDS-PAGE immunoblots, in samples from human, mouse, rat, monkey, rabbit, dog, sheep, pig and bovine origins. This antibody is suitable as a Golgi marker as the epitopes recognized are on the cytoplasmic face of the Golgi membrane. It also reacts specifically with two members of the 14-3-3 protein family: the acidic human IEF58 (~29 kDa) and IEF57a (~30 kDa), which correspond to 14-3-3 beta and zeta, respectively.

Species Reactivity

human, mouse, rat, monkey, rabbit, dog, sheep, pig, bovine

Applications

	Certified*	Cited*
Western Blot (ECL) (6,7)	1 μ g/mL	Yes
Immunocytochemistry (6)		Yes
Immunohistochemistry (PC)	1:50	

*These working dilutions are provided as suggestions only. Further dilutions may be possible. Each user should determine the optimal conditions for their own particular experiment.

Personal - Communication

Positive Controls

HeLa Cell Lysate, Product#: LYC-HL100

Scientific Background

14-3-3 proteins are highly conserved proteins which play a role in both signal transduction and progression through the cell cycle by binding to and regulating several different proteins (1,2). 14-3-3 proteins activate tyrosine and tryptophan hydroxylases and protein kinase C. They mediate signal transduction by binding to phosphoserine-containing proteins. There are at least 7 mammalian isoforms: alpha, beta, gamma, delta, epsilon, zeta, and eta. An eighth subtype, termed theta has been found in rat brain (3). The 14-3-3 proteins exist *in vitro* and *in vivo* as either homo- or heterodimers which interact via their N-terminal domains and are subject to phosphorylation by protein kinase C (4). 14-3-3 proteins are localized in the cytoplasm of neurons in the cerebral cortex and are axonally transported to the nerve terminals. They may be present at lower levels in various other eukaryotic tissues. Northern blot analysis has shown expression of the eta chain in cultured cell lines derived from various tumors (5).

References

1. Aitken, A., Jones, D., Soneji, Y., Howell, S. (1995) *Biochem. Soc. Trans.* **23**: 605-611.
2. Burbelo, P.D., Hall, A. (1995) *Curr. Biol.* **5**: 95-96.
3. Watanabe, M., Isobe, T., Ichimura, T., Kuwano, R., Takahashi, Y., Kondo, H., Inoue, Y. (1994) *Brain Res. Mol. Brain Res.* **25**: 95113-121.
4. Jones, D.H., Martin, H., Madrazo, J., Robinson, K.A., Nielsen, P., Roseboom, P.H., Patel, Y., Howell, S.A., Aitken, A. (1995) *J. Mol. Biol.* **245**: 375-384.
5. Ichimura-Ohshima, Y., Morii, K., Ichimura, T., Araki, K., Takahashi, Y., Isobe, T., Minoshima, S., Fukuyama, R., Shimizu, N., Kuwano, R. (1992) *J. Neurosci. Res.* **31**: 600-605.
6. Celis et al. (1988) *FEBS Lett.* **227**: 14-20.
7. Choi, E.K., Zaidi, N.F., Miller, J.S., Crowley, A.C., Merriam, D.E., Lilliehook, C., Buxbaum, J.D., Wasco, W. (2001) *J Biol Chem* **276**(22): 19197-19204.

Rev: 03/06/06

CERTIFICATE OF ANALYSIS

Anti-14-3-3 β/ζ

Product #: KAM-CC012

Size: 100 μ g

Lot #: 02230612

Format: Mouse immunoglobulin in phosphate buffered saline (PBS), pH 7.2, 0.1mM PMSF, 0.09% azide in 50% glycerol. This antibody was affinity purified using Protein G affinity chromatography.

Concentration: 1.0 mg/mL

Host: Mouse

Antibody Type: Monoclonal

Clone#: 22-IID8B

Isotype: IgG

Certification: 1 μ g/mL of KAM-CC012 was sufficient for detection of 14-3-3 β/ζ in 20 μ g of HeLa cell lysate (product# LYC-HL100) by ECL immunoblot analysis using Stressgen's Goat anti-Mouse IgG:HRP (product# SAB-100) as the secondary antibody.

STORAGE & SHIPPING: Store product at -20°C. Storage below -20°C is not recommended. Product may be stored for 2-4 weeks at 4°C. For optimal storage, aliquot to smaller portions and store at -20°C to avoid temperature fluctuations. For maximum product recovery centrifuge the product vial before removing cap. Shipped on gel packs.



FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES: This product is not to be used for diagnostic nor therapeutic purposes. By accepting this product, the user confirms that it will be used for research purposes only. Stressgen warrants that its products conform to the information published by Stressgen. Purchaser must determine the suitability of the product for their particular use. Please refer to the MSDS for product safety information.

MATERIAL SAFETY DATA SHEET

Section 1 - Product Identification and Use

Product Name: Mouse Anti-14-3-3 β/ϵ Monoclonal Antibody **Product#** KAM-CC012

This product is sold only for research use by qualified laboratory personnel, and is not to be used as a drug, medical device, food additive, cosmetic, nor household chemical. It is not to be used in diagnostic, therapeutic, consumer, agricultural, nor pesticidal applications.

Manufacturer's Name: Stressgen Bioreagents Corporation
Street Address: 800 Technology Drive
City, State, Zip Code: Ann Arbor, MI 48108 USA
Fax: 734.668.2793
EMERGENCY PHONE: 800.833.8651 (USA and Canada)
734.668.6113

Section 2 - Hazardous Ingredients

The physical, chemical and toxicological properties of these components have not been fully investigated. It is recommended that all laboratory personnel follow standard laboratory safety procedures when handling this product. Safety procedures should include wearing OSHA approved safety glasses, gloves and protective clothing. Direct physical contact with this product should be avoided.

<u>Known Hazardous Components</u>	<u>CAS Number</u>	<u>Percent</u>
Sodium Azide	26628-22-8	0.09

Section 3 - Physical Data

This product consists of mouse immunoglobulin in PBS, containing 0.1% PMSF and 0.09% azide, in 50% glycerol shipped on gel packs. The physical properties of this product have not been investigated thoroughly.

Section 4 - Fire and Explosion Hazard

NOT APPLICABLE

Section 5 - Reactivity Data

NOT APPLICABLE

Section 6 - Toxicological Properties

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

Section 7 - Preventative Measures

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

*****MULTIPLE COMPONENT SPILL OR LEAK PROCEDURES*****

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations.

Section 8 - First Aid Measures

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.

Section 9 - Preparation

Prepared by:	Phone#:	Created:	Modified:
SBLP	734.668.6113	04/12/05	03/06/06

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Stressgen shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.