

# Anti-PKA

TECHNICAL SPECIFICATIONS



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## Rabbit Anti-cAMP-Dependent Protein Kinase (PKA) Polyclonal Antibody Product #: KAP-PK001

### Immunogen

A synthetic peptide sequence based on the human 40 kDa isoform of the catalytic subunit of cAMP-dependent protein kinase (PKA or cAPK) coupled to KLH.

### Specificity

This immunoaffinity purified antibody detects a 40 kDa protein, corresponding to the apparent molecular mass of PKA on SDS-PAGE immunoblots, in samples from human, rat, and mouse origins. This antibody also detects a band at 97 kDa of unknown origin.

### Species Reactivity

human, rat, mouse

### Applications

Certified\*

Cited\*

Applications	Certified*	Cited*
Western Blot (Colorimetric)	1 µg/mL	

\*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.

PC – Personal Communication

### Positive Controls

HeLa Cell Lysate                      Product#: LYC-HL100F  
Rat Brain Tissue Extract            Product#: LYT-RB100F  
Mouse Brain Tissue Extract        Product#: LYT-MB100F

### Scientific Background

Protein Kinase A (PKA) also known as cAMP-dependent protein kinase, is a 40kDa protein kinase that phosphorylates serine or threonine residues in target protein (enzymes, structural proteins, transcription factors, ion channels, etc.) in response to elevated levels of cAMP (2). The second messenger cAMP is produced in response to a wide variety of hormones and neurotransmitters and regulates cellular processes such as cell growth and differentiation, ion channel conductivity, synaptic release of neurotransmitters, and gene transcription and the principle intracellular target for cAMP is PKA (3). Inactive PKA exists as a tetrameric protein composed of two regulatory (R) subunits and two catalytic (C) subunits (2). Activation occurs when two cAMP molecules bind to each R subunit which causes a conformational change that releases the active C subunits (2). Two major PKA isozymes, type I (PKAI) and type II (PKAII) consist of RI and RII respectively, complexed with C (2). Three different C subunits have been identified; alpha, beta, and gamma and four different R subunits have been identified; RI-alpha, RI-beta, RII-alpha, and RII-beta (2). It has been suggested that the complex structure of PKA may be necessary for it to accomplish such diverse functions. Over 60 distinct proteins have been shown to be phosphorylated by PKA in vitro, these include a wide diversity of regulatory enzymes.

### References

1. Maldonado, R. and Hanks, S.K. (1988) 16: 8189-8190.
2. Hardie, G. and Hanks, S. (1995) The Protein Kinase Facts Book, Protein-Serine Kinases Academic Press Limited, San Diego, CA 418ppp.
3. Hansson, V., Skalhegg, B.S. and Tasken, K. (1999) J. Steroid Biochem. Mol. Biol. 69: 367-378.

Rev: 08/02/06

## CERTIFICATE OF ANALYSIS

### Anti-PKA

Product #: KAP-PK001

**Format:** Rabbit immunoglobulin in phosphate buffered saline (PBS), pH 7.2 and 0.09% sodium azide. This antibody was purified on a peptide bound immunoaffinity column.

**Concentration:** 1.0 mg/ml

**Host:** Rabbit                      **Antibody Type:** Polyclonal

**Certification:** A 1 µg/mL dilution of KAP-PK001 was sufficient for detection of PKA in 20µg of HeLa cell lysate (product# LYC-HL100F) by colorimetric immunoblot analysis using Stressgen's Goat anti-Rabbit IgG-AP (product# SAB-301) as the secondary antibody.

**Note:** Stressgen makes every effort to provide a consistent source of high quality polyclonal antisera. However due to variations inherent in this technology, investigators are urged to purchase sufficient quantities of a specific lot number if an identical antisera is required throughout a study.

**STORAGE & SHIPPING:** Store frozen product at or below -20°C. Thawed product may be stored for 2-4 weeks at 4°C. For optimal storage, aliquot to smaller portions and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles. For maximum product recovery, after thawing, 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:** Rabbit Anti-PKA Polyclonal Antibody **Product#** KAP-PK001

*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  
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City, Prov. Postal Code: Ann Arbor, MI 48108 USA  
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## 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 rabbit immunoglobulin in phosphate buffered saline (PBS) pH 7.2 shipped on gel packs (dry ice overseas). 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: SBC	Phone#: (734) 668-6113 Toll Free in North America: (800) 833-8651	Created: 10/18/99	Modified: 08/02/06
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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.