Phospho-AKTide-2T
Mouse Monoclonal Antibody (Clone AT-3E2)

Cat# CY-M1025

100 µg (1 mg/ml x 100 µL)

Clone Name	Applications	Species Cross-reactivity	Molecular Wt.	Source Isotype
AT-3E2	E	N/A	N/A	Mouse IgG1

Background: AKT was originally identified as a proto-oncogene with a pleckstrin homology and Ser/Thr protein kinase domains. Recent studies revealed that AKT regulates a variety of cellular functions including cell survival, cell growth, cell differentiation, cell cycle progression, transcription, translation, and cellular metabolism.

AKTide-2T, containing the optimal motif selected by oriented peptide library screening, proved to be the best in vitro substrate for AKT (1). AKTide-2T had the lowest Km (3.9 µM) and highest Vmax/Km ratio, while it did not have the highest Vmax value. AKTide-2T also can act as a competitive inhibitor for AKT, with Ki values of 56 µM.

Specificity/Sensitivity: Phospho-AKTide-2T Antibody detects phosphorylated AKTide-2T only when phosphorylated at serine residue, by ELISA.

Source/Purification: Monoclonal antibody is produced by immunizing mice with a synthetic phosphopeptide AKTide-2T, ARKRERTY(pS)FGHHA, which is synthetic substrate for AKTs. IgG is purified by protein A-sepharose chromatography.

Recommended Antibody Dilutions: ELISA for detection of AKT activity: 1 ug/mL

Storage: Supplied in 20 mM phosphate buffer (pH 7.5), 300 mM NaCl, 50 % glycerol. Store at -20°C.

Applications Key: WB: Western Blotting **IP:**Immunoprecipitation **IHC:**Immunohistochemistry **IC:**Immunocytochemistry **F:**Flow cytometry **E:**ELISA **FP:**Fluorescence Polarization assay
Species Cross-Reactivity Key: H:human **M:**mouse **R:**rat **Hm:**hamster **Mk:**monkey **Mi:**mink **C:**chicken **X:***Xenopus* **Z:**zebra fish **All:**all species expected Species enclosed in parentheses are predicted to react based on 100% sequence homology. **N/A:** Not Applicable

Selected Application References:

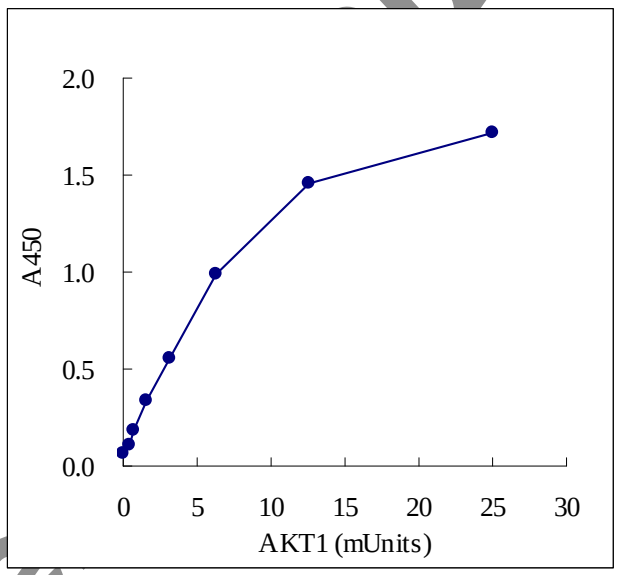
1. Toshiyuki Obata, Michael B. Yaffe, German G. Leparc, Elizabeth T. Piro, Hiroshi Maegawa, Atsunori Kashiwagi, Ryuichi Kikkawa, and Lewis C. Cantley Peptide and Protein Library Screening Defines Optimal Substrate Motifs for AKT/PKB *J. Biol. Chem.* **275**: 36108 – 36115, 2000.

2. Nishikawa, K., Toker, A., Johannes, F. J., Songyang, Z., and Cantley, L. C. Determination of the Specific Substrate Sequence Motifs of Protein Kinase C Isozymes *J. Biol. Chem.* **272**, 952-960, 1997.

3. Takashi Katome, Toshiyuki Obata, Rie Matsushima, Norihisa Masuyama, Lewis C. Cantley, Yukiko Gotoh, Kazuhiro Kishi, Hiroshi Shiota, and Yousuke Ebina Use of RNA Interference-mediated Gene Silencing and Adenoviral Overexpression to Elucidate the Roles of AKT/Protein Kinase B Isoforms in Insulin Actions *J. Biol. Chem.* **278**: 28312 – 28323, 2003

4. Ted O'Neill, Lauren Giarratani, Ping Chen, Lakshmanan Iyer, Chang-Hun Lee, Matthew Bobiak, Fumihiko Kanai, Bin-Bing Zhou, Jay H. Chung, and Gary A. Rathbun Determination of Substrate Motifs for Human Chk1 and hCds1/Chk2 by the Oriented Peptide Library Approach *J. Biol. Chem.* **277**: 16102 – 16115, 2002

Fig.1 ELISA for measurement of recombinant AKT1 activity using Phospho-AKTide-2T Monoclonal antibody (AT-3E2) in CycLex AKT/PKB Assay/Inhibitor Screening Kit (Cat# CY-1168)



Related Products

*** AKT/PKB Assay/Inhibitor Screening Kit: Cat# CY-1168**
*** AKT-1 Positive Control: Cat# CY-E1168-1**
*** AKT-2 Positive Control: Cat# CY-E1168-2**

PRODUCED BY

CycLex Co., Ltd.
1063-103 Terasawaoka
Ina, Nagano 396-0002
Japan
Fax: +81-265-76-7618
e-mail: info@cyclex.co.jp
URL: http://www.cyclex.co.jp