Revision 1

Store at -20C

#9646

# Phospho-Akt Substrate (RXXS*/T*) (110B7E) Rabbit mAb (Sepharose® Bead Conjugate)

Cell Signaling TECHNOLOGY®

**Orders:** 877-616-CELL (2355)
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com
cellsignal.com

**3 Trask Lane | Danvers | Massachusetts | 01923 | USA**

**For Research Use Only. Not for Use in Diagnostic Procedures.**

| Applications: | Reactivity: | Sensitivity: | Source/Isotype: |
|---|---|---|---|
| IP | All | Endogenous | Rabbit IgG |

## Product Usage Information

| Application | Dilution |
|---|---|
| Immunoprecipitation | 1:20 |

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol. Store at –20°C. Do not aliquot the antibodies.

## Specificity / Sensitivity

Phospho-(Ser/Thr) Akt Substrate Motif (RXXS*/T*) (110B7) Rabbit mAb (Sepharose® Bead Conjugate) recognizes peptides and proteins containing phospho-serine/threonine preceded by arginine at the -3 position. There is some preference observed for peptides that contain phospho-serine/threonine preceded by arginine at both positions -5 and -3. (U.S. Patent No's.: 6,441,140; 6,982,318; 7,259,022; 7,344,714; U.S.S.N. 11,484,485; and all foreign equivalents.)

## Source / Purification

Monoclonal antibody is produced by immunizing animals with synthetic phospho-Akt substrate peptides.

## Product Description

This Cell Signaling Technology antibody is immobilized via covalent binding of primary amino groups to N-hydroxysuccinimide (NHS)-activated Sepharose® beads. Phospho-Akt Substrate (RXXS*/T*) (110B7E) Rabbit mAb (Sepharose® Bead Conjugate) is useful for the immunoprecipitation of phosphorylated Akt substrate proteins.

## Background

An important class of kinases, referred to as Arg-directed kinases or AGC-family kinases, includes cAMP-dependent protein kinase (PKA), cGMP-dependent protein kinase (PKG), protein kinase C, Akt, and RSK. These kinases share a substrate specificity characterized by Arg at position -3 relative to the phosphorylated Ser or Thr (1,2). Akt plays a central role in mediating critical cellular responses including cell growth and survival, angiogenesis, and transcriptional regulation (3-5). While a number of Akt substrates are known (such as GSK-3, Bad, and caspase-9) many important substrates await discovery. Akt phosphorylates substrates only at Ser/Thr in a conserved motif characterized by Arg at positions -5 and -3 (6). Phospho-Akt substrate-specific antibodies from Cell Signaling Technology are powerful tools for investigating the regulation of phosphorylation by Akt and other Arg-directed kinases, as well as for high throughput kinase drug discovery.

## Background References

1. Montminy, M. (1997) *Annu Rev Biochem* 66, 807-22.
2. Pearson, R.B. and Kemp, B.E. (1991) *Methods Enzymol* 200, 62-81.
3. Marte, B.M. and Downward, J. (1997) *Trends Biochem Sci* 22, 355-8.
4. Jiang, B.H. et al. (2000) *Proc Natl Acad Sci USA* 97, 1749-53.
5. Scheid, M.P. and Woodgett, J.R. (2000) *Curr Biol* 10, R191-4.
6. Alessi, D.R. et al. (1996) *FEBS Lett* 399, 333-8.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Applications Key

**IP:** Immunoprecipitation

## Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

## Trademarks and Patents



## Limited Uses

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