Qty: 100 µg/200 µL

Mouse anti-Akt2

Catalog No. 39-3900

Lot No.

Mouse anti-Akt2

FORM

This monoclonal antibody is supplied as a 200 µL aliquot at a concentration of 0.5 mg/mL in PBS, pH 7.4, containing 0.1% sodium azide. This antibody is highly purified from mouse ascites by protein A chromatography.

CLONE: ZA006 **ISOTYPE:** Mouse IgG_1-kappa

IMMUNOGEN

Synthetic peptide derived from the C-terminal region of the human Akt2 protein, which is 95% and 90% homologous with rat and mouse, respectively

SPECIFICITY

This antibody is specific for the Akt2 (v-Akt murine thymoma viraloncogene homolog 2, protein kinase B-β (PKB-β), PRKBB, Rac-β) protein. On Western blots, it identifies the target band at ~60 kDa.

REACTIVITY

Reactivity has been confirmed with human HL60 and MCF-7 cell lysates, rat testis homogenates, and mouse heart homogenates.

Sample	Western Blotting	ELISA
Human	+++	ND
Mouse	+	ND
Rat	++	ND
Immunogen	N/A	+++

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

ELISA: 0.1 – 1.0 µg/mL
Western Blotting: 1-3 µg/mL

STORAGE

Store at 2-8°C for up to one month. Store at –20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

BACKGROUND

AKT2, also known as v-akt murine thymoma viral oncogene homolog 2, PKB-β, PRKBB, and Rac-β, is a putative oncogene encoding a protein belonging to a subfamily of serine/threonine kinases containing a SH2-like (Src homology 2-like) domain.[1] Akt2 is one of three known mammalian isoforms of AKT/PKB, has been demonstrated to be required for at least some metabolic actions. Akt2 is a protein kinase capable of phosphorylating a wide variety of proteins, including ezrin, XIAP, tuberin, and IκB kinase α, making it a central player in a wide variety of signal transduction pathways.

Over-expression of exogenous Akt enhances cell survival by dramatically reducing apoptosis, and transfection of dominant negative mutant kinase constructs (kinase dead) inhibits survival of neurons promoted by IGF1.[2] The *AKT2* gene was shown to be amplified and over-expressed in 2 of 8 ovarian carcinoma cell lines and 2 of 15 primary ovarian tumors.[3] Over-expression of Akt2 contributes to the malignant phenotype of a subset of human ductal pancreatic cancers,[4] and frequent activation of Akt2 has been described in pancreatic cancer tissues.[5] Recently, Akt2 has been implicated as a prognostic marker in breast cancer. Low expression of Akt2 alone or in combination with high expression of phospho-Akt (Ser473) predicted decreased overall survival in tamoxifen-treated patients with ER-positive breast cancers.[6]

REFERENCES

1. Jones PF, et al. *Cell Regul* 2:1001-1009, 1991.
2. Alessi DR, et al. *EMBO J* 15:6541-6551, 1996.
3. Cheng JQ, et al. *PNAS* 89:9267-9271, 1992.
4. Cheng JQ, et al. *PNAS* 93:3636-3641, 1996.
5. Altomare DA, et al. *J Cell Biochem* 88(1):470476, 2003.
6. Kirkegaard T, et al. *J Pathol* 2005; Aug 9 [epub ahead of print].

RELATED PRODUCTS

Product	*Conjugate*	*Cat. No.*
Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

Conjugate	ZyMAX™ Goat x Rabbit IgG (H+L)	ZyMAX™ Goat x Mouse IgG (H+L)
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy™3	81-6115	81-6515
Cy™5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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