



Qty: 100 µg/200 µL

Mouse anti-Pim-1

Catalog No. 39-4600

Lot No.

Mouse anti-Pim-1

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: ZP003

ISOTYPE: Mouse IgG₁-kappa

IMMUNOGEN

Synthetic peptide derived from the internal region of the human Pim-1 (Proto-oncogene serine/threonine protein kinase Pim-1) protein, which is 94 and 88% homologous with rat and mouse, respectively

SPECIFICITY

This antibody is specific for the Pim-1 protein. On Western blots, it identifies the target band at ~35 kDa.

REACTIVITY

Reactivity has been confirmed with human K562 cell lysates by Western blotting.

Sample	Western Blotting	ELISA
Human	+++	ND
Mouse	0	ND
Rat	0	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)

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PI394600

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BACKGROUND

Pim-1, the product of the *Pim-1* oncogene, was originally sequenced from the K562 human leukemia cell line¹⁻². Its expression is associated with cell proliferation and survival. Pim-1 is a serine/threonine kinase with oncogenic potential in cells of a variety of hematopoietic lineages; its overexpression is frequently detected in human hematopoietic cell lines and in tumor cells from patients with leukemia.³⁻⁵

Pim-1 is dependent on and cooperates with deregulation of c-Myc on both gene and protein levels in oncogenesis and apoptosis; the Cdc25A cell cycle phosphatase has been proposed as the effector molecule common to both Pim-1 and c-Myc signaling pathways that is responsible for this interaction.⁶ Pim-1 is also known to act in concert with the anti-apoptotic protein A1/Bfl-1 in BCR/ABL-mediated leukemogenesis.⁷ CD40 signaling increases the levels of Pim-1 protein and its kinase activity in B cells via the NFκB signaling pathway.⁸

REFERENCES

1. Zakut-Houri R, et al. *Gene* 54:105-111, 1987.
2. Meeker TC, et al. *J Cell Biochem* 35:105-112, 1987.
3. Nagarajan L, et al. *PNAS* 83:2556-2560, 1986.
4. Meeker TC, et al. *Oncogene Res* 1:87-101, 1987.
5. Amson R, et al. *PNAS* 86:8857-8861, 1989.
6. Mochizuki T, et al. *J Biol Chem* 274(26):18659-18666, 1999.
7. Nieborowska-Skorska M, et al. *Blood* 99:4531-4539, 2002.
8. Zhu N, et al. *J Immunol* 168:744-754, 2002.

RELATED PRODUCTS

Product	Conjugate	Cat. No.
Protein A	Sepharose 4B	10-1041
rec-Protein G	Sepharose 4B	10-1241
ZyMAX™ Goat anti-rabbit IgG	Unconjugated	81-6100
ZyMAX™ Goat anti-mouse IgG	Unconjugated	81-6500

Secondary antibody conjugates.

Conjugate	Goat anti-rabbit IgG (H+L)	Goat anti-mouse IgG (H+L)	Ex/Em*	Fluorescence similar to--
Alexa Fluor® 488	A11008	A11001	495/519	FITC
Alexa Fluor® 555	A21428	A21422	555/565	Cy3
Alexa Fluor® 594	A11012	A11005	590/617	Texas Red
Alexa Fluor® 647	A21244	A21235	650/668	Cy5
HRP	81-6120	81-6520	NA**	NA
AP	81-6122	81-6522	NA	NA
Biotin	B2770	B2763	NA	NA

*Excitation/emission (nm); **Not applicable

For additional secondary antibody conjugates, visit www.invitrogen.com/antibodies

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