Qty: 100 µg/200 µL

Mouse anti-p18^{INK4c}

Catalog No. 39-3400

Lot No.

Mouse anti-p18^{INK4c}

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: ZP001 **ISOTYPE:** Mouse IgG_1-kappa

IMMUNOGEN

Recombinant, full-length mouse p18^{INK4c}, which shares 99 and 92% sequence homology with rat and human, respectively

SPECIFICITY

This antibody is specific for the p18^{INK4c} protein. On Western blots, it identifies the target band at ~18 kDa.

REACTIVITY

Reactivity has been confirmed with mouse NIH 3T3 cells by Western blotting, and with p18-transfected NIH 3T3 cells by immunofluorescence. Based on amino acid sequence homology, reactivity with rat and human is expected.

Sample	ELISA	Western Blotting	Immuno-fluorescence
Mouse	ND	+++	++
Rat	ND	ND	ND
Human	ND	ND	ND
Immunogen	+++	N/A	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: 0.5 – 1.0 µg/mL
Immunofluorescence: 1 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

p18, also known as INK4C, is a member of the INK4 family of cyclin-dependent kinase (CDK) inhibitors.[1] The INK4 family consists of four tumor suppressor proteins, p15 (INK4B), p16 (INK4A), p18 (INK4C), and p19 (INK4D). While their sequences and structures are highly homologous, these family members show appreciable differences in conformational flexibility, stability, and aggregation tendency.[2]

The $p18^{INK4c}$ protein interacts with CDK4 or CDK6 to prevent the activation of the CDKs, thus functioning as a cell growth regulator that controls G1 cell cycle progression. Ectopic expression of the *p18* gene suppresses the growth of human cells in a manner that appears to correlate with the presence of wild-type *RB1* function. Studies in knockout mice suggest roles in regulating spermatogenesis, as well as in suppressing tumorigenesis. Male mice lacking both the INK4C and INK4D genes, which encode two inhibitors of D-type cyclin-dependent kinases (Cdks), are infertile, whereas female fecundity is unaffected. Both $p18^{INK4c}$ and $p19^{INK4d}$ are expressed in the seminiferous tubules of postnatal wild-type mice, largely confined to postmitotic spermatocytes undergoing meiosis.[3] Cyclin-dependent kinase inhibitors(CDKIs), including $p16^{INK4a}$, $p18^{INK4c}$, $p19^{INK4d}$, and $p27^{Kip1}$, are considered as potential novel anticancer agents due to their ability to induce growth arrest or apoptosis in tumor cells.[4]

The $p18^{INK4c}$ protein is highly expressed in skeletal muscle, and also found in pancreas and heart. Two alternatively spliced transcript variants of this gene, which encode an identical protein, have been reported.

REFERENCES

1. Kun-Liang G, et al. *Mol Biol Cell* 7:57-70, 1996.
2. Yuan C, et al. *J Mol Biol* 19:294(1):201-211, 1999.
3. Zindy F, et al. *Mol Cell Biol* 21(9):3244-3255, 2001.
4. Komata T, et al. *Br J Cancer* 22:88(8):1277-1280, 2003.

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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