Revision 1

Store at -20C

#4824

p16 INK4A Antibody

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	16	Rabbit	#P42771	1029

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

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

Specificity/Sensitivity

p16 INK4A Antibody detects endogenous levels of p16 INK4A protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues within the carboxy-terminal region of human p16 INK4A. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Cyclin-dependent kinases (CDKs) are activated in part by forming complexes with cyclins. For example, CDK4 and CDK6 associate with the D-type cyclins and phosphorylate the retinoblastoma protein. This phosphorylation is a necessary event for cells to enter S-phase (1). The inhibitors of CDK4 (INK4) family include p15 INK4B, p16 INK4A, p18 INK4C and p19 INK4D. p18 has been shown to function as a haploinsufficient tumor suppressor *in vivo* (2). All INK4 proteins are composed of 32 amino acid ankyrin motifs and selectively inhibit CDK4/6 activity. Mutational analyses of p18 implicate the third and the amino-terminal portion of the fourth ankyrin repeat in mediating binding to CDK4/6 (3). The interaction of INK4 family members can be a binary complex with CDK4/6 or ternary complex with cyclin D-bound CDK4/6 and ultimately results in the inhibition of cell cycle progression (4,5).
p16 INK4A directly inhibits the activity of cyclin D, thereby inhibiting S-phase entry (6,7). As such, expression of p16 INK4A is commonly associated with cellular senescence, and disruption of the p16 INK4A gene is frequently observed in human cancers.

Background References

1. Lukas, J. et al. (1996) *Mol. Cell. Biol.* 16, 6917-6925.
2. Bai, F. et al. (2003) *Mol. Cell. Biol.* 23, 1269-1277.
3. Noh, S.J. et al. (1999) *Cancer Res.* 59, 558-564.
4. Guan, K.L. et al. (1994) *Genes Dev.* 8, 2939-2952.
5. Hirai, H. et al. (1995) *Mol. Cell. Biol.* 15, 2672-2681.
6. Sherr, C.J. (2001) *Nat Rev Mol Cell Biol* 2, 731-7.
7. Lowe, S.W. and Sherr, C.J. (2003) *Curr Opin Genet Dev* 13, 77-83.

Species Reactivity

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

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

Trademarks and Patents

Limited Uses

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