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AP05292SU-N Polyclonal Antibody to SET / I2PP2A - Purified

Alternate names: I-2PP2A, IGAAD, Inhibitor of granzyme A-activated DNase, PHAPII, Phosphatase 2A inhibitor I2PP2A, TAF-I, Template-activating factor I

Quantity: 0.1 mg

Concentration: 1.0 mg/ml

Background: Human SET was originally identified as part of the SET-CAN fusion gene produced by a somatic translocation event in a patient with acute undifferentiated leukemia. In developing kidney, SET is highly expressed in the zone of nephron morphogenesis. SET has been shown to be a potent and specific inhibitor of protein phosphatase 2A, a family of major serine/threonine phosphatases involved in regulating cell proliferation and differentiation. SET is also involved in the regulation of renal cell proliferation and tumorigenesis. SET mRNA expression is markedly reduced in cells rendered quiescent by serum starvation, contact inhibition, or differentiation. SET protein expression is also much greater in developing rat and human kidney than in fully differentiated, mature kidney. High levels of SET mRNA and SET protein expression arefound in Wilms' tumor, but not in renal cell carcinoma, adult polycystic kidney disease or in transitional cell carcinoma.

Uniprot ID: H0UI37

NCBI: NP_001116293.1

GeneID: 100130890

Host / Isotype: Rabbit / IgG

Immunogen: Synthetic peptide derived from the Human SET protein

Format: **State:** Liquid purified Ig fraction.
Buffer System: Phosphate buffered saline with 0.08% Sodium Azide as preservative.

Applications: Western blot (1-5 µg/ml).
Positive Control/Tissue Expression: widely expressed. Low levels in quiescent cells during serum starvation, contact inhibition or differentiation. Highly expressed in Wilms' tumor.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This antibody detects I2PP2A / SET.
Species: Human.
Other species not tested.

Add. Information: Predicted Molecular Weight: 33489 kDa

Storage: Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:

1. von Lindern M, van Baal S, Wiegant J, Raap A, Hagemeijer A, Grosveld G. Can, a putative oncogene associated with myeloid leukemogenesis, may be activated by fusion of its 3' half to different genes: characterization of the set gene. Mol Cell Biol. 1992 Aug;12(8):3346-55. PubMed PMID: 1630450.
2. Vaesen M, Barnikol-Watanabe S, Götz H, Awni LA, Cole T, Zimmermann B, et al. Purification and characterization of two putative HLA class II associated proteins: PHAPI and PHAPII. Biol Chem Hoppe Seyler. 1994 Feb;375(2):113-26. PubMed PMID: 8192856.
3. Nagata K, Kawase H, Handa H, Yano K, Yamasaki M, Ishimi Y, et al. Replication factor encoded by a putative oncogene, set, associated with myeloid leukemogenesis. Proc Natl Acad Sci U S A. 1995 May 9;92(10):4279-83. PubMed PMID: 7753797.
4. Li M, Makkinje A, Damuni Z. The myeloid leukemia-associated protein SET is a potent inhibitor of protein phosphatase 2A. J Biol Chem. 1996 May 10;271(19):11059-62. PubMed PMID: 8626647.
5. Tsujio I., Zaidi T., Xu J., Kotula L., Grundke-Iqbal I., Iqbal K.; "Inhibitors of protein phosphatase-2A from human brain: structures, immunocytological localization and activities towards dephosphorylation of the Alzheimer type hyperphosphorylated Tau."; Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
6. Gerhard DS, Wagner L, Feingold EA, Shenmen CM, Grouse LH, Schuler G, et al. The status, quality, and expansion of the NIH full-length cDNA project: the Mammalian Gene Collection (MGC). Genome Res. 2004 Oct;14(10B):2121-7. PubMed PMID: 15489334.
7. Adachi Y, Pavlakis GN, Copeland TD. Identification and characterization of SET, a nuclear phosphoprotein encoded by the translocation break point in acute undifferentiated leukemia. J Biol Chem. 1994 Jan 21;269(3):2258-62. PubMed PMID: 8294483.
8. Carlson SG, Eng E, Kim EG, Perlman EJ, Copeland TD, Ballermann BJ. Expression of SET, an inhibitor of protein phosphatase 2A, in renal development and Wilms' tumor. J Am Soc Nephrol. 1998 Oct;9(10):1873-80. PubMed PMID: 9773788.
9. Seo SB, McNamara P, Heo S, Turner A, Lane WS, Chakravarti D. Regulation of histone acetylation and transcription by INHAT, a human cellular complex containing the set oncoprotein. Cell. 2001 Jan 12;104(1):119-30. PubMed PMID: 11163245.
10. Minakuchi M, Kakazu N, Gorrin-Rivas MJ, Abe T, Copeland TD, Ueda K, et al. Identification and characterization of SEB, a novel protein that binds to the acute undifferentiated leukemia-associated protein SET. Eur J Biochem. 2001 Mar;268(5):1340-51. PubMed PMID: 11231286.
11. Fan Z, Beresford PJ, Zhang D, Lieberman J. HMG2 interacts with the nucleosome assembly protein SET and is a target of the cytotoxic T-lymphocyte protease granzyme A. Mol Cell Biol. 2002 Apr;22(8):2810-20. PubMed PMID: 11909973.
12. Fan Z, Beresford PJ, Oh DY, Zhang D, Lieberman J. Tumor suppressor NM23-H1 is a granzyme A-activated DNase during CTL-mediated apoptosis, and the nucleosome assembly protein SET is its inhibitor. Cell. 2003 Mar 7;112(5):659-72. PubMed PMID: 12628186.
13. Fan Z., Beresford P.J., Oh D.Y., Zhang D., Lieberman J.; Cell 115:241-241(2003).
14. Olsen JV, Blagoev B, Gnad F, Macek B, Kumar C, Mortensen P, et al. Global, in vivo,

and site-specific phosphorylation dynamics in signaling networks. Cell. 2006 Nov 3;127(3):635-48. PubMed PMID: 17081983.
15. Kim SC, Sprung R, Chen Y, Xu Y, Ball H, Pei J, et al. Substrate and functional diversity of lysine acetylation revealed by a proteomics survey. Mol Cell. 2006 Aug;23(4):607-18. PubMed PMID: 16916647.
16. Molina H, Horn DM, Tang N, Mathivanan S, Pandey A. Global proteomic profiling of phosphopeptides using electron transfer dissociation tandem mass spectrometry. Proc Natl Acad Sci U S A. 2007 Feb 13;104(7):2199-204. Epub 2007 Feb 7. PubMed PMID: 17287340.

Recommended Control Peptides: AP05292CP-N