WD-repeat protein 5

Cat. No. CBCRY09 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	
Source	E.coli
Background	The WD40 repeat protein WDR5 specifically associates with the K4-methylated histone H3 in human cells. The structure of WDR5 in complex with a dimethylated H3-K4 peptide was deterimined. Unlike the chromodomain that recognizes the methylated H3-K4 through a hydrophobic cage, the specificity of WDR5 for methylated H3-K4 is conferred by the nonconventional hydrogen bonds between the two zeta-methyl groups of the dimethylated Lys4 and the carboxylate oxygen of Glu322 in WDR5. The three amino acids Ala-Arg-Thr preceding Lys4 form most of the specific contacts with WDR5, with Ala1 forming intermolecular hydrogen bonds and salt bridges, and the side chain of Arg2 inserting into the central channel of WDR5.
Protein Classification	Structural protein and DNA binding protein
Structure Weight	35306.44 Da
Polymer	1
Molecule	WD-repeat protein 5
Chain Length	311 amino acids
PDB ID	2G9A

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MMDB ID	41532
Method	X-Ray Diffraction
Resolution	2.7 Å
Reference	Han Z, Guo L, Wang H, Shen Y, Deng XW, Chai J. Structural basis for the specific recognition of methylated histone H3 lysine 4 by the WD-40 protein WDR5. Mol. Cell 2006, 22(1):137-44.

GENE INFORMATION

Gene Name	WDR5
Synonyms	BIG-3; BIG3; BMP2-induced 3-kb gene protein; SWD3, Set1c WD40 repeat protein, homolog; WD-repeat protein 5; WD repeat domain 5
UniProt ID	P61964
Gene ID	11091
Chromosome Location	9q34
Function	protein binding

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