



WDR5 Protein Crystal

Catalog: CBCRY09

PRODUCT INFORMATION

Name WDR5 Protein Crystal

Cat No. CBCRY09

Fragment Residues 24-334

Protein Description WD-repeat protein 5

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 determined. 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

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.