



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human WDR5 Protein
Catalog Number: hTF-1672
Manufacturer: LD Biopharma, Inc.

Introduction

Human WD repeat domain 5 (WDR5) gene encodes a member of the WD repeat protein family. WD repeats are minimally conserved regions of approximately 40 amino acids typically bracketed by gly-his and trp-asp (GH-WD), which may facilitate formation of heterotrimeric or multiprotein complexes. WDR5 plays a role in histone modification regulation by positioning the N-terminal histone H3 for efficient trimethylation at Lys-4. H3 lys-4 methylation represents a specific tag for epigenetic transcription activation. As part of the NSL complex, WDR5 may also be involved in acetylation of nucleosomal histone H4 on several lysine residues. It may regulate osteoblast differentiation. Recent data indicated that WDR5 directly interacts with MYC protein and plays an important role in tumorigenesis. The interface between WDR5 and MYC provides a unique structural basis for potential small molecular drug / inhibitor development.

Full-length human WDR5 (333aa, Isoform-1) gene was constructed with codon optimized gene synthesis technology, and fusion with 29 aa N-terminal T7 / His / TEV cleavage site Tag. This protein is expressed in *E. coli* as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: WDR5 (BIG-3; CFAP89; SWD3)
Accession Number: NP_060058.1
Species: Human
Size: 50 µg / Vial
Composition: 1.0 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 7 days.

Key References



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Lancer R Thomas, et al., *Interaction with WDR5 promotes target gene recognition & Tumorigenesis by MYC*. Mol. Cell 58 (4), 1-13 (2015)

Kim JY, et al., *A role for WDR5 in integrating threonine 11 phosphorylation to lysine 4 methylation on histone H3 during androgen signaling and in prostate cancer*. Mol. Cell 54 (4), 613-625 (2014)

Patel A, et al., *Automethylation activities within the mixed lineage leukemia-1 (MLL1) core complex reveal evidence supporting a 'two-active site' model for multiple histone H3 lysine 4 methylation*. J. Biol. Chem. 289 (2), 868-884 (2014)

Senisterra G, et al., *Small-molecule inhibition of MLL activity by disruption of its interaction with WDR5*. Biochem. J. 449 (1), 151-159 (2013)

Applications

1. May be used for in vitro WDR5 mediated Myc transcription regulation pathway controlling for tumorigenesis study with “ProFectin” reagent based intracellular delivery of this protein.
2. May be used as specific protein substrate for kinase and ubiquitin (Sumo pathway) related enzyme functional screening assays.
3. May be used for WDR5 protein-protein interaction mapping.
4. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGFATEEKKPETEAARAQPTPSSSATQSKPTPVKPNYAL
KFTLAGHTKAVSSVKFSPNGEWLASSADKLIKIWGAYDGKFEKTISGHKLGISDVAWSSDSNL
LVSASDDKTLKIWDVSSGKCLKTLKGHSNYVFCCNFNPQSNLIVSGSFDESVR IWDVKTGKCLK
TLPAHSDPVS AVHFNRDGLIVSSSYDGLCRIWDTASGQCLKTLIDDDNPPVSVFKFSPNGKYI
LAATLDNTLKLWDYSK GKCLKTYTGHKNEKYCIFANFSVTGGKWIIVSGSEDNLVYIWNLQTK EI
VQKLQGH TDVVI STACHPTENI IASAALENDKTIK LWKSDC