DOT1L Recombinant Protein

PRODUCT OVERVIEW

Product Name	DOT1L, Recombinant Protein
Full Product Name	DOT1L Protein, Human, Recombinant
Product Gene Name	DOT1L recombinant protein
Product Synonym Names	Human DOT1L/KMT4 Protein; DOT1 Protein, Human; KMT4 Protein, Human; DOT1-like histone H3K79 methyltransferase
Sequence	Gly2-Lys41 6
Host	E Coli
Form/Format	Lyophilized from sterile 20mM HEPES, 150mM NaCl, 1mM EDTA, 15% glycerol, pH7.5. Normally 5%-8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hard copy of CoA.
Purity/Purification	>90% as determined by SDS-PAGE
Preparation and Storage	Samples are stable for up to twelve months from date of receipt at -20 degree C to -80 degree C. Store it under sterile conditions at -20 degree C to -80 degree C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice.
Molecular Weight	184853 MW
OMIM	AF509504 mRNA
3D Structure	ModBase 3D Structure for Q8TEK3
Species	Human
Predicted N Terminal	Gly
Tag	N-cleavage
Protein Construction	A DNA sequence encoding the human DOT1L (NP_115871.1) N-terminal segment (Gly 2-Lys 416) was expressed and purified, with two additional amino acids (Gly & Pro) at the N-terminus.
Reconstitution	A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.
Related Product Information for DOT1L recombinant protein	Background: Histone-lysine N-methyltransferase, H3 lysine-79 specific, also known as Histone H3-K79 methyltransferase, DOT1-like protein, Lysine N-methyltransferase 4 and DOT1L, is a nucleus protein which belongs to theDOT1 family. In contrast to other lysine histone methyltransferase, DOT1L does not contain a SET domain, suggesting the existence of another mechanism for methylation of lysine residues of histones. DOT1L is an histone methyltransferase. It methylates 'Lys-79' of histone H3. Nucleosomes are preferred as substrate compared to free histones. DOT1L binds to DNA. Methylation of lysine 79 on histone H3 (H3K79) is mediated by DOT1L. It is involved in the regulation of telomeric silencing, development, cell cycle checkpoint and transcription. Mass spectrometry of the DOT1L-containing complex revealed that AF9, ENL and NPM1 were shown to be major DOT1L-interacting proteins. DOT1L might control AF9- and ENL-mediated transcription, regulate RNA processing, and function as a histone chaperone in a NPM1-dependent manner.
Product References and Citations for DOT1L recombinant protein	Nagase T. et al., 2001, DNA Res. 8:85-95. Feng Q.et al., 2002, Curr. Biol. 12:1052-8. Dephoure N. et al., 2008, Proc. Natl. Acad. Sci. USA. 105:10762-7. Gauci S. et al., 2009, Anal. Chem. 81:4493-501. Park,G. et al., 2010, Protein J. 29 (3):213-23.

Other Notes	Small volumes of DOT1L recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for DOT1L purchase	MBS8120849 is a recombinant protein targeting DOT1L. Also known as DOT1L Protein, Human, Recombinant. Host: E Coli.



SDS-Page of DOT1L recombinant protein

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for DOT1L. It may not necessarily be applicable to this product.

NCBI GI #	22094135
NCBI GeneID	84444
NCBI Accession #	NP_115871.1
UniProt Primary Accession #	Q8TEK3
UniProt Secondary Accession #	O60379; Q96JL1
UniProt Related Accession #	Q8TEK3
GenBank Nucleotide #	NM_032482.2
NCBI Official Full Name	histone-lysine N-methyltransferase, H3 lysine-79 specific
NCBI Official Synonym Full Names	DOT1 like histone lysine methyltransferase
NCBI Official Symbol	DOT1L
NCBI Official Synonym Symbols	DOT1; KMT4
UniProt Protein Name	Histone-lysine N-methyltransferase, H3 lysine-79 specific
UniProt Synonym Protein Names	DOT1-like protein; Histone H3-K79 methyltransferase; H3-K79-HMTase; Lysine N-methyltransferase 4
UniProt Gene Name	DOT1L
UniProt Synonym Gene Names	KIAA1814; KMT4; H3-K79-HMTase
NCBI Protein Information	histone-lysine N-methyltransferase, H3 lysine-79 specific
NCBI Summary for DOT1L	The protein encoded by this gene is a histone methyltransferase that methylates lysine-79 of histone H3. It is inactive against free core histones, but shows significant histone methyltransferase activity against nucleosomes. [provided by RefSeq, Aug 2011]
UniProt Comments for DOT1L	Histone methyltransferase. Methylates 'Lys-79' of histone H3. Nucleosomes are preferred as substrate compared to free histones. Binds to DNA.
Research Articles on DOT1L	**1.** findings demonstrate that DOT1L over-expression has important clinical significance in ovarian cancer and also clarify that it drives cell cycle progression through transcriptional regulation of CDK6 and CCND3 through H3K79 methylation

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