

Datasheet for ABIN3113554
MLH1 Protein (AA 2-756) (His tag)



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Overview

Quantity:	2 mg
Target:	MLH1
Protein Characteristics:	AA 2-756
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This MLH1 protein is labelled with His tag.
Application:	Western Blotting (WB), ELISA, SDS-PAGE (SDS), Crystallization (Crys)

Product Details

Sequence:	SFVAGVIRRL DETVFNRIAA GEVIQRPANA IKEMIENCLD AKSTSIQVIV KEGGLKLIQI QDNGTGIRKE DLDIVCERFT TSKLQSFEDL ASISTYGFRG EALASISHVA HVTITTKTAD GKCAYRASYS DGKLGKAPPKP CAGNQGQTQIT VEDLFYNIAT RRKALKNPSE EYGKILEVWG RYSVHNAGIS FSVKKQGETV ADVRTLPNAS TVDNIRSIFG NAVSRELIEI GCEDKTLAFK MNGYISNANY SVKKCIFLLF INHRLVESTS LRKAIETVYA AYLPKNTHPF LYLSLEISPO NVDVNVHPTK HEVHFLHEES ILERVQQHIE SKLLGSN SSR MYFTQTL L PG LAGPSGEMVK STTSLTSSST SGSSDKVYAH QMVRTDSREQ KLDAFLQPLS KPLSSQPQAI VTEDKTDISS GRARQQDEEM LELPAPAEVA AKNQSLEGDT TKG TSEMSEK RGPTSSNPRK RHRESDVEM VEDDSRKEMT AACTPRRRRII NLTSVLSLQE EINEQGHEVL REMLHNHSFV GCVNPQWALA QHQT KLYLLN TTKLSEELFY QILYDFANF GVLRLSEPAP LFDLAMLALD SPESGWTEED GPKEGLAEYI VEFLKKAEM LADYFSLEID EEGNLIGLPL LIDNYVPPLE GLPIFILRLA TEVNWDEEKE CFESLSKECA MFYSIRKQYI SEESTLSGQQ SEVPGSIPNS WKWTVEHIVY
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KALRSHILPP KHFTEDGNIL QLANLPDLYK VFERC

Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.

Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Human MLH1 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a made to order protein and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm. The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the ExPASy's protparam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in baculovirus infected SF9 insect cells:

1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE.
2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.

Purity:

>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

Sterility:

0.22 µm filtered

Endotoxin Level:

Protein is endotoxin free.

Product Details

Grade: Crystallography grade

Target Details

Target: MLH1

Alternative Name: MLH1 ([MLH1 Products](#))

Background: Heterodimerizes with PMS2 to form MutL alpha, a component of the post-replicative DNA mismatch repair system (MMR). DNA repair is initiated by MutS alpha (MSH2-MSH6) or MutS beta (MSH2-MSH6) binding to a dsDNA mismatch, then MutL alpha is recruited to the heteroduplex. Assembly of the MutL-MutS-heteroduplex ternary complex in presence of RFC and PCNA is sufficient to activate endonuclease activity of PMS2. It introduces single-strand breaks near the mismatch and thus generates new entry points for the exonuclease EXO1 to degrade the strand containing the mismatch. DNA methylation would prevent cleavage and therefore assure that only the newly mutated DNA strand is going to be corrected. MutL alpha (MLH1-PMS2) interacts physically with the clamp loader subunits of DNA polymerase III, suggesting that it may play a role to recruit the DNA polymerase III to the site of the MMR. Also implicated in DNA damage signaling, a process which induces cell cycle arrest and can lead to apoptosis in case of major DNA damages. Heterodimerizes with MLH3 to form MutL gamma which plays a role in meiosis. {ECO:0000269|PubMed:16873062, ECO:0000269|PubMed:18206974}.

Molecular Weight: 85.4 kDa Including tag.

UniProt: [P40692](#)

Pathways: [DNA Damage Repair](#), [Production of Molecular Mediator of Immune Response](#)

Application Details

Application Notes: In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

Comment: In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

Restrictions: For Research Use only

Handling

Format:	Liquid
Buffer:	100 mM NaCL, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)