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MLH1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7464b

Product Information

Application	WB, E
Primary Accession	P40692
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB18204
Calculated MW	84601

Additional Information

Gene ID	4292
Other Names	DNA mismatch repair protein Mlh1, MutL protein homolog 1, MLH1, COCA2
Target/Specificity	This MLH1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide selected from the C-term region of human MLH1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MLH1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MLH1
Synonyms	COCA2
Function	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-MSH3) 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.
Cellular Location	Nucleus. Chromosome. Note=Recruited to chromatin in a MCM9- dependent manner.
Tissue Location	Colon, lymphocytes, breast, lung, spleen, testis, prostate, thyroid, gall bladder and heart

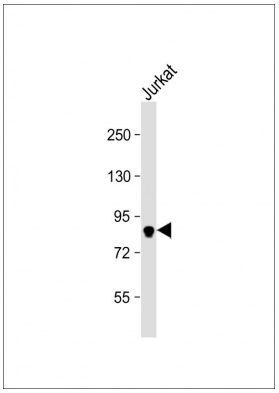
Background

MLH1 was identified as a locus frequently mutated in hereditary nonpolyposis colon cancer (HNPCC). The protein is a human homolog of the E. coli DNA mismatch repair gene mutL, consistent with the characteristic alterations in microsatellite sequences (RER+ phenotype) found in HNPCC.

References

Bronner C.E., Baker S.Nature 368:258-261(1994)
Kolodner R.D., Hall N.Cancer Res. 55:242-248(1995)
Han H.-J., Maruyama M.Hum. Mol. Genet. 4:237-242(1995)
Bellacosa A.Proc. Natl. Acad. Sci. U.S.A. 96:3969-3974(1999)

Images



Anti-MLH1 Antibody (C-term) at 1:1000 dilution + Jurkat whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 85 kDa Blocking/Dilution buffer: 5% NFDM/TBST.