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Anti-MLH1 Antibody

Catalog # AP51343

Product Information

Application	WB, IF/IC
Primary Accession	P40692
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	84601

Additional Information

Gene ID	4292
Other Names	COCA2; DNA mismatch repair protein Mlh1; MutL protein homolog 1
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human MLH1. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

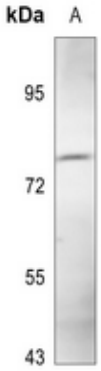
Name	MLH1
Synonyms	COCA2
Function	Heterodimerizes with PMS2 to form MutL alpha, a component of the post-replicative DNA mismatch repair system (MMR). DNA repair is initiated by MutS alpha (MSH2-MSH6) or MutS beta (MSH2-MSH3) binding to a dsDNA mismatch, then MutL alpha is recruited to the heteroduplex. 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

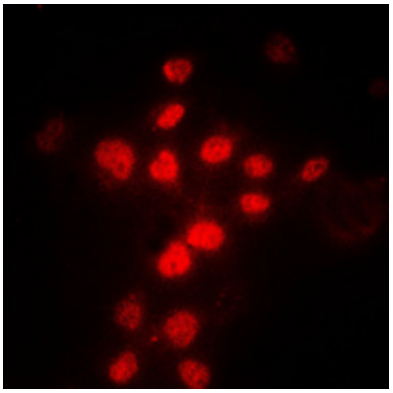
References

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Han H.-J.,et al.Hum. Mol. Genet. 4:237-242(1995).
Ota T.,et al.Nat. Genet. 36:40-45(2004).

Images



Western blot analysis of MLH1 expression in K562 (A) whole cell lysates. (Predicted band size: 84 kD; Observed band size: 85 kD)



Immunofluorescent analysis of MLH1 staining in HeLa cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight 594-conjugated secondary antibody (red) in PBS at room temperature in the dark.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.