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Anti-MLH1 Picoband Antibody

Catalog # ABO12410

Product Information

Application	WB
Primary Accession	P40692
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for DNA mismatch repair protein Mlh1(MLH1) detection. Tested with WB in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	4292
Other Names	DNA mismatch repair protein Mlh1, MutL protein homolog 1, MLH1, COCA2
Calculated MW	84601
Application Details	Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat
Subcellular Localization	Nucleus .
Tissue Specificity	Colon, lymphocytes, breast, lung, spleen, testis, prostate, thyroid, gall bladder and heart.
Source	Eukaryota
Protein Name	DNA mismatch repair protein Mlh1
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human MLH1 (722-756aa KALRSHILPPKHFTEDGNILQLANLPDLYKVFERC), different from the related mouse sequence by three amino acids, and from the related rat sequence by four amino acids.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated

freezing and thawing.

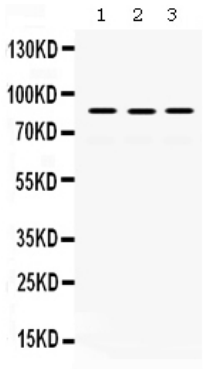
Protein Information

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

MutL homolog 1, colon cancer, nonpolyposis type 2 (E. coli) is a protein that in humans is encoded by the MLH1 gene located on Chromosome 3. This gene was identified as a locus frequently mutated in hereditary nonpolyposis colon cancer (HNPCC). It 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. Alternative splicing results in multiple transcript variants encoding distinct isoforms. Additional transcript variants have been described, but their full-length natures have not been determined.

Images



Anti- MLH1 Picoband antibody, ABO12410, Western blottingAll lanes: Anti MLH1 (ABO12410) at 0.5ug/mlLane 1: Rat Lung Tissue Lysate at 50ugLane 2: Mouse Testis Tissue Lysate at 50ugLane 3: COLO320 Whole Cell Lysate at 40ugPredicted bind size: 84KDObserved bind size: 84KD