

ARG53294 anti-MLH1 antibody

Package: 500 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes MLH1
Tested Reactivity	Hu
Tested Application	IHC-P
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	MLH1
Species	Human
Immunogen	Synthetic peptide corresponding to internal region of human MLH1 protein.
Conjugation	Un-conjugated
Alternate Names	HNPCC2; COCA2; FCC2; hMLH1; MutL protein homolog 1; DNA mismatch repair protein Mlh1; HNPCC

Application Instructions

Application table	Application	Dilution
	IHC-P	1:100
Application Note	IHC-P: Incubation Time: 30 min at RT. * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	
Positive Control	Colon Carcinoma	

Properties

Form	Liquid
Purification	Immunogen affinity purified
Buffer	PBS (pH 7.6), 1% BSA and < 0.1% Sodium azide
Preservative	< 0.1% Sodium azide
Stabilizer	1% BSA
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Database links

[GeneID: 4292 Human](#)

[Swiss-port # P40692 Human](#)

Background

MLH1 protein can heterodimerize with mismatch repair endonuclease PMS2 to form MutL alpha, part of the DNA mismatch repair system. When MutL alpha is bound by MutS beta and some accessory proteins, the PMS2 subunit of MutL alpha introduces a single-strand break near DNA mismatches, providing an entry point for exonuclease degradation. The encoded protein is also involved in DNA damage signaling and can heterodimerize with DNA mismatch repair protein MLH3 to form MutL gamma, which is involved in meiosis. This gene was identified as a locus frequently mutated in hereditary nonpolyposis colon cancer (HNPCC). [provided by RefSeq, Aug 2017]

Function

MLH1 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. [UniProt]

Research Area

Cancer antibody; Gene Regulation antibody

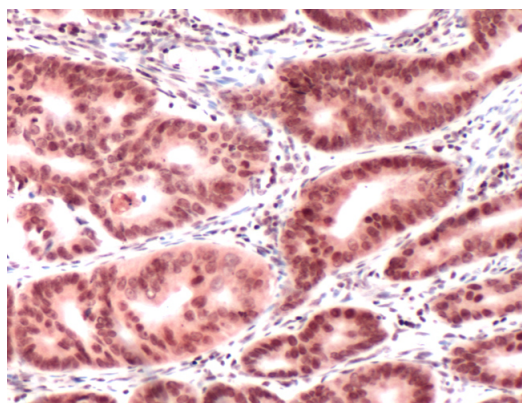
Calculated Mw

85 kDa

Cellular Localization

Nucleus

Images



ARG53294 anti-MLH1 antibody IHC-P image

Immunohistochemistry: Human Colon Carcinoma stained with MLH1 antibody (ARG53294)