ARG65861
anti-MLH1 antibody [SQab1716]

Package: 100 µl, 50 µl
Store at: -20°C

Summary

Product Description	Recombinant Rabbit Monoclonal antibody [SQab1716] recognizes MLH1
Tested Reactivity	Hu
Tested Application	FACS, ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Monoclonal
Clone	SQab1716
Isotype	IgG
Target Name	MLH1
Species	Human
Immunogen	Synthetic peptide around the C-terminus of Human MLH1.
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
FACS	1:10 - 1:200
ICC/IF	1:2000 - 1:10000
IHC-P	1:100 - 1:200
WB	1:5000 - 1:20000

Application Note

IHC-P: Antigen Retrieval: Boil tissue section in Tris/EDTA buffer (pH 9.0).
* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

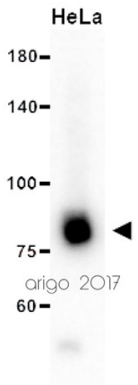
Form	Liquid
Purification	Purification with Protein A.
Buffer	PBS, 0.01% Sodium azide, 40% Glycerol and 0.05% BSA.
Preservative	0.01% Sodium azide
Stabilizer	40% Glycerol and 0.05% BSA
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. 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.

Bioinformation

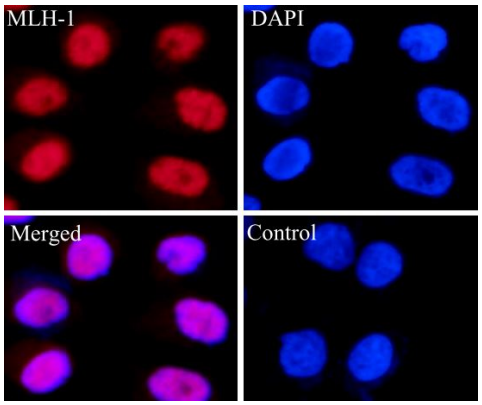
Database links	GeneID: 4292 Human Swiss-port # P40692 Human
Gene Symbol	MLH1
Gene Full Name	mutL homolog 1
Background	MLH1 protein can heterodimerize with mismatch repair endonuclease PMS2 to form MutL alpha, part of the DNA mismatch repair system. When MutL alpha is bound by MutS beta and some accessory 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]
Highlight	Related products: MLH1 antibodies; Anti-Rabbit IgG secondary antibodies; Related news: Cancer Pathology Markers (SQ clones)
Calculated Mw	85 kDa

Images



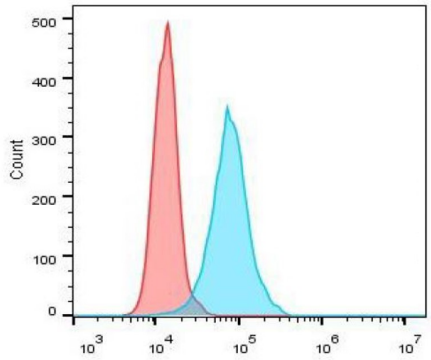
ARG65861 anti-MLH1 antibody [SQab1716] WB image

Western blot: 30 µg of HeLa cell lysates stained with ARG65861 anti-MLH1 antibody [SQab1716] at 1:10000 dilution.



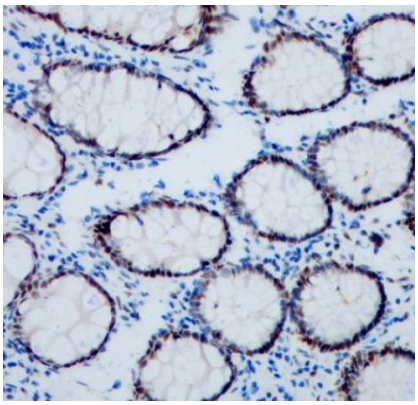
ARG65861 anti-MLH1 antibody [SQab1716] ICC/IF image

Immunofluorescence: HeLa cells fixed with 4% paraformaldehyde for 30 min at RT, permeabilized with 0.1% Triton X-100 for 10 min at RT then blocked with 10% Goat serum for half an hour at room temperature. Samples were stained with ARG65861 anti-MLH1 antibody [SQab1716] (red) at 1:2000 and 4°C. DAPI (blue) was used as the nuclear counter stain. Control: PBS and secondary antibody.



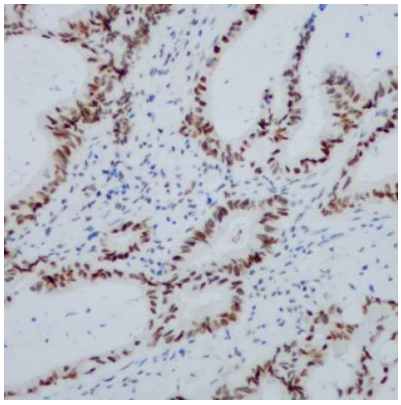
ARG65861 anti-MLH1 antibody [SQab1716] FACS image

Flow Cytometry: HeLa cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% TritonX-100 for 15 min. The cells were then stained with ARG65861 anti-MLH1 antibody [SQab1716] (blue) at 1:50 dilution in 1x PBS/1% BSA for 30 min at 4°C, followed by Alexa Fluor® 488 labelled secondary antibody. Unlabelled sample (red) was used as a control.



ARG65861 anti-MLH1 antibody [SQab1716] IHC-P image

Immunohistochemistry: Formalin/PFA-fixed and paraffin-embedded sections of Human colon tissue stained with ARG65861 anti-MLH1 antibody [SQab1716] at 1:200 dilution. Antigen Retrieval: Boil tissue section in Tris/EDTA buffer (pH 9.0).



ARG65861 anti-MLH1 antibody [SQab1716] IHC-P image

Immunohistochemistry: Formalin/PFA-fixed and paraffin-embedded sections of Human colonic adenocarcinoma tissue stained with ARG65861 anti-MLH1 antibody [SQab1716] at 1:200 dilution. Antigen Retrieval: Boil tissue section in Tris/EDTA buffer (pH 9.0).