

## PRODUCT INFORMATION SHEET

### Mouse Monoclonal Antibody to MLH1

Format: PURE      RUO      REF      IQP-1206P      Volume: 0.1ml



#### Description

<b>Clone</b>	4C9C7
<b>Isotype</b>	Mouse IgG1
<b>Specificity</b>	MLH1
<b>Alternative names</b>	FCC2; COCA2; HNPCC
<b>Species</b>	Human, Monkey
<b>Immunogen</b>	Purified recombinant fragment of MLH1 (aa381-483) expressed in E. Coli.
<b>Mw</b>	85kDa
<b>Format</b>	Ascitic fluid containing 0.03% sodium azide.

**Summary** DNA-mismatch repair (MMR), a conserved process that involves correcting errors made during DNA synthesis, is crucial to the maintenance of genomic integrity. Lack of a functional DNA-mismatch repair pathway is a common characteristic of several different types of human cancers, either due to an MMR gene mutation or promoter-methylation gene silencing. MLH1 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 hereditary nonpolyposis colon cancer (HNPCC). MLH1 is an integral part of the protein complex responsible for mismatch repair expressed in lymphocytes, heart, colon, breast, lung, spleen, testis, prostate, thyroid and gall bladder, and is methylated in several ovarian tumors. Loss of MLH1 protein expression is associated with a mutated phenotype, microsatellite instability and a predisposition to cancer. In hereditary nonpolyposis colorectal cancer (HNPCC), an autosomal dominant inherited cancer syndrome that signifies a high risk of colorectal and various other types of cancer, the MLH1 gene exhibits a pathogenic mutation. Inactivation of the MLH1 gene causes genome instability and predisposition to cancer. MLH1 also plays a role in meiotic recombination.

**Applications** Western Blotting: 1/500 - 1/2000. Immunohistochemistry: 1/200 - 1/1000. Immunofluorescence: 1/200 - 1/1000. ELISA: Propose dilution 1/10000. Not yet tested in other applications. Determining optimal working dilutions by titration test.

#### Limitations

1. Conjugates with brighter fluorochromes, like PE and APC, will have a greater separation than those with dyes like FITC and CyQ. When populations overlap, the percentage of positive cells using a selected marker can be affected by the choice of fluorescent label.
2. Use of monoclonal antibodies in patient treatment can interfere with antigen target recognition by this reagent. This should be taken into account when samples are analyzed from patients treated in this fashion. IQ Products has not characterized the effect of the presence of therapeutic antibodies on the performance of this reagent.
3. Reagents can be used in different combinations, therefore laboratories need to become familiar performance characteristics of each antibody in relation with the combined markers in normal and abnormal samples.
4. Reagent data performance is based on EDTA-treated blood. Reagent performance can be affected by the use of other anticoagulants.



### Handling and Storage

Antibodies are supplied in 0.01 M sodium phosphate, 0.15 M NaCl; pH 7.3, 0.03% sodiumazide (NaN<sub>3</sub>) or as ascetic fluid containing 0.03% sodiumazide. Store the vials at 2-8 °C for a maximum of 2 weeks and store at -20°C for longer term storage. Monoclonal antibodies should be protected from prolonged exposure to light when conjugated with fluorochromes. Reagents are stable for the period shown on the vial label when stored properly.

### Warranty

Products sold hereunder are warranted only to conform to the quantity and contents stated on the label at the time of delivery to the customer. There are no warranties, expressed or implied, which extend beyond the description on the label of the product. IQ Products is not liable for property damage, personal injury, or economic loss caused by the product.

### Characterization

To ensure consistently high-quality reagents, each batch of monoclonal antibody is tested for conformance with characteristics of a standard reagent. Representative flow cytometric data is included in this data sheet.

### Warning

All products contain sodiumazide. This chemical is poisonous and hazardous. Handling should be done by trained staff only.

- References**
1. Int J Cancer. 2007 Aug 1;121(3):555-8.
  2. Autophagy. 2007 Jul-Aug;3(4):368-70.
  3. Fam Cancer. 2008 Jun;7(2):163-172.

### Explanation of used symbols



REF



RUO

LOT



EC REP



Consult instructions for use

Catalogue number

Sufficient for

Caution, consult accompanying document

Keep away from (sun)light

Biological risks

Temperature limitation (°C)

For Research Use Only

Batch code

Use by yyyy-mm-dd

Manufacturer

Authorized Representative in the European Community

Conformité Européenne (European Conformity)



**Products**  
bright fluorescence

		<b>Label - tandem</b>	<b>Ex -max (nm)</b>	<b>Em -max (nm)</b>
P	PURE	purified material	-	-
F	FITC	FITC	488	519
R	R-PE	PE	488, 532	578
C	CyQ	PE-Cy5.18	488, 532	667
A	APC		595, 633, 635, 647	660
PC	PerCP		488, 532	678
PCC	PerCP-Cy5.5		488, 532	695



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