ARG66817
anti-MSH2 antibody [SQab20226]

Package: 100 µl
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody [SQab20226] recognizes MSH2
Tested Reactivity	Hu
Tested Application	IHC-P, WB
Host	Mouse
Clonality	Monoclonal
Clone	SQab20226
Isotype	IgG
Target Name	MSH2
Species	Human
Immunogen	Recombinant fragment around aa. 327-427 of Human MSH2 protein.
Conjugation	Un-conjugated
Alternate Names	DNA mismatch repair protein Msh2; COCA1; HNPCC1; FCC1; LCFS2; MutS protein homolog 2; hMSH2; HNPCC

Application Instructions

Application table

Application	Dilution
IHC-P	1:100 - 1:200
WB	1:500 - 1:2000

Application Note: IHC-P: Antigen Retrieval: Heat mediation was performed in Tris/EDTA buffer (pH 9.0), primary antibody incubate at RT (18°C - 25°C) for 30 minutes.
* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

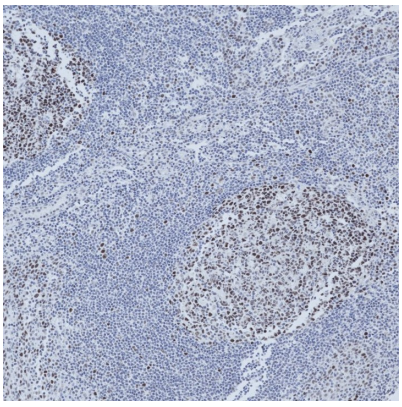
Properties

Form	Liquid
Purification	Purification with Protein G.
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

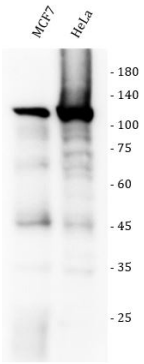
Gene Symbol	MSH2
Gene Full Name	mutS homolog 2
Background	This locus is frequently mutated in hereditary nonpolyposis colon cancer (HNPCC). When cloned, it was discovered to be a human homolog of the E. coli mismatch repair gene mutS, consistent with the characteristic alterations in microsatellite sequences (RER+ phenotype) found in HNPCC. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Apr 2012]
Function	Component of the post-replicative DNA mismatch repair system (MMR). Forms two different heterodimers: MutS alpha (MSH2-MSH6 heterodimer) and MutS beta (MSH2-MSH3 heterodimer) which binds to DNA mismatches thereby initiating DNA repair. When bound, heterodimers bend the DNA helix and shields approximately 20 base pairs. MutS alpha recognizes single base mismatches and dinucleotide insertion-deletion loops (IDL) in the DNA. MutS beta recognizes larger insertion-deletion loops up to 13 nucleotides long. After mismatch binding, MutS alpha or beta forms a ternary complex with the MutL alpha heterodimer, which is thought to be responsible for directing the downstream MMR events, including strand discrimination, excision, and resynthesis. Recruits DNA helicase MCM9 to chromatin which unwinds the mismatch containing DNA strand (PubMed:26300262). ATP binding and hydrolysis play a pivotal role in mismatch repair functions. The ATPase activity associated with MutS alpha regulates binding similar to a molecular switch: mismatched DNA provokes ADP-->ATP exchange, resulting in a discernible conformational transition that converts MutS alpha into a sliding clamp capable of hydrolysis-independent diffusion along the DNA backbone. This transition is crucial for mismatch repair. MutS alpha may also play a role in DNA homologous recombination repair. In melanocytes may modulate both UV-B-induced cell cycle regulation and apoptosis. [UniProt]
Calculated Mw	105 kDa
PTM	Phosphorylated by PRKCZ, which may prevent MutS alpha degradation by the ubiquitin-proteasome pathway. [UniProt]
Cellular Localization	Nucleus. [UniProt]

Images



ARG66817 anti-MSH2 antibody [SQab20226] IHC-P image

Immunohistochemistry: Human colon carcinoma stained with ARG66817 anti-MSH2 antibody [SQab20226].



ARG66817 anti-MSH2 antibody [SQab20226] WB image (Customer review)

Western blot: MCF7, HeLa stained with ARG66817 anti-MSH2 antibody [SQab20226] at 1:500 dilution.