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Product datasheet for TA327701

MSH2 Mouse Monoclonal Antibody [Clone ID: G219-1129]

Product data:

Product Type:	Primary Antibodies
Clone Name:	G219-1129
Applications:	IHC
Recommended Dilution:	IHC: 1:100-1:500
Reactivity:	Human
Host:	Mouse
Isotype:	IgG1
Clonality:	Monoclonal
Formulation:	This antibody is supplied as cell culture supernatant diluted in tris buffered saline, pH 7.3-7.7, with 1% BSA and <0.1% sodium azide.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	mutS homolog 2
Database Link:	NP_000242 Entrez Gene 4436 Human P43246
Synonyms:	COCA1; FCC1; HNPCC; HNPCC1; LCFS2

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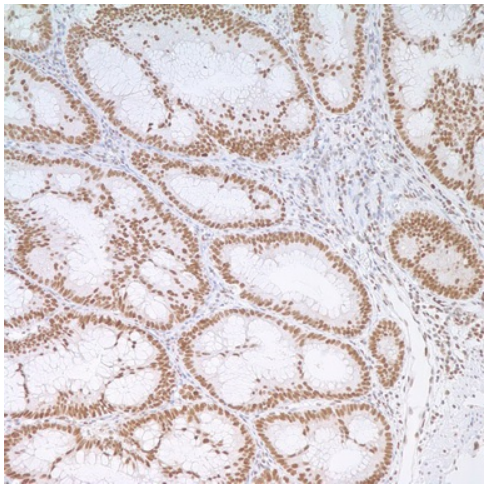
Note: MSH2 is a locus frequently mutated in hereditary nonpolyposis colon cancer (HNPCC). When cloned, it was discovered to be a human homolog of the E. coli mismatch repair gene mutS, consistent with the characteristic alterations in microsatellite sequences (RER+ phenotype) found in HNPCC. Microsatellites are repetitive DNA sequences dispersed throughout the genome. The repetition renders them susceptible to slippage mutations. To counter this, there are families of mismatch repair (MMR) genes which correct these errors. These repair genes include MLH1, PMS2, MSH2, and MSH6. Defective MMR genes lead to accumulation of mutations in microsatellite regions, known as microsatellite instability (MSI). Colonic and endometrial carcinomas in HNPCC can be demonstrated to have MSI. MSI can also be found in 17% to 23% of non-familial endometrial carcinomas; this MSI is attributable to silencing of the MLH1 gene by promoter methylation.HNPCC is characterized by an increased risk of colon cancer and other cancers (e.g., of the endometrium, ovary, stomach, small intestine, hepatobiliary tract, upper urinary tract, brain, and skin). Individuals with HNPCC have an approximately 80% lifetime risk for colon cancer. Women with HNPCC have a 20-60% lifetime risk of endometrial cancer. Among women with HNPCC who develop both colon cancer and endometrial cancer, approximately 50% present first with endometrial cancer. 90% of patients with HNPCC have mutations of either MLH1 or MSH2. Mutations in MSH6 have been reported in approximately 7-10% of families with HNPCC. Mutations in PMS2 account for fewer than 5% of mutations in families with HNPCC.MSI testing can be demonstrated by polymerase chain reaction, molecular genetic testing, and methylation analysis of tumor tissue. However, in routine diagnostic practice, IHC is the most common clinically available method for detection of the proteins encoded by MLH1, MSH2, and MSH6. IHC is more feasible for large scale screening programs as it is more available than MSI testing.

Protein Families: Druggable Genome, Stem cell - Pluripotency

Protein Pathways: Colorectal cancer, Mismatch repair, Pathways in cancer

Product images:



Immunohistochemistry staining of Paraffin Colon tissue by MSH2 antibody (dilution: 1:100-1:500; visualization of staining: Nuclear)