Datasheet for ABIN967315

anti-MLH1 antibody

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Overview

Quantity:	150 µg
Target:	MLH1
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This MLH1 antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (Paraffin-embedded Sections) (IHC (p)), Immunohistochemistry (Frozen Sections) (IHC (fro))

Product Details

Brand:	BD Pharmingen™
Immunogen:	Human recombinant MLH
Clone:	G168
Isotype:	IgG1
Characteristics:	1. Since applications vary, each investigator should titrate the reagent to obtain optimal results. 2. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing. 3. Source of all serum proteins is from USDA inspected abattoirs located in the United States. 4. Please refer to us for technical protocols.
Purification:	The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity

Product Details

	chromatography.

Target Details

Target:	MLH1
Alternative Name:	MLH1 (MLH1 Products)
Background:	The repair of mismatched DNA is essential to maintaining the integrity of genetic information over time. In bacteria the DNA repair process is accomplished by the MutL, MutH, and MutS proteins. The MutS protein initially recognizes and binds to mismatched DNA. Following this, MutH, an endonuclease, and MutL form a complex with MutS and carry out an excision repair mechanism. When bacteria are deficient in one of these enzymes a mutator phenotype arises characterized by genetic instability. The important role played by DNA repair enzymes is emphasized by the fact that they are highly conserved from bacteria to yeast to mammals. In yeast the proteins are called MutS homolog 2 (MSH2), MutL homolog (MLH1), and PMS1 which is also a homolog of MutL. MSH2 is involved in the initial recognition of mismatched nucleotides during the replication mismatch repair process. It is thought that after MSH2 binds to a mismatched DNA duplex it is joined by a heterodimer of MLH1 and PMS1 which together help facilitate the later steps in mismatch repair. Biochemical studies of the human homologs of DNA mismatch repair enzymes MLH1, PMS2, and MSH2 indicate that human MSH2 protein can bind mispaired DNA, and that human MLH1 and PMS2 can exist as a heterodimer. These and other studies support the conservation of eukaryotic DNA mismatch repair mechanisms. The G168-15 antibody recognizes human MLH1 (80-85 kDa). Full-length human recombinant MLH was expressed as a fusion protein, affinity purified, and used as immunogen.
Molecular Weight:	80-85 kDa
Pathways:	DNA Damage Repair, Production of Molecular Mediator of Immune Response

Application Details

Application Notes:	Applications include western blot analysis (0.5-2.0 µg/ml) and immunohistochemical staining of frozen and paraffin-embedded tissue sections (5-20 µg/ml). Jurkat control lysate [50 µg (1 µg/µl)] is provided as a western blot control (store lysate at -20°C). Additional Jurkat control lysate (ABIN968537) is sold separately. Intestine or normal colon is suggested as a positive control for immunohistochemical staining. In intestine, staining is primarily nuclear and is seen in the crypts of Lieberkuhn, similar to that described in the literature. Both nuclear and cytoplasmic staining have been observed in a variety of other normal and tumor tissue and cell

Application Details

	types. Clone G168-728 (ABIN967392) is recommended for immunoprecipitation of MLH1.
Comment:	Related Products: ABIN968537, ABIN967392, ABIN967389
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	0.25 mg/mL
Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09 % sodium azide.
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	Store undiluted at -20°C.

Publications

Product cited in:

Baker, Plug, Prolla, Bronner, Harris, Yao, Christie, Monell, Arnheim, Bradley, Ashley, Liskay: " Involvement of mouse Mlh1 in DNA mismatch repair and meiotic crossing over." in: **Nature genetics**, Vol. 13, Issue 3, pp. 336-42, (1996) (PubMed).

Li, Modrich: "Restoration of mismatch repair to nuclear extracts of H6 colorectal tumor cells by a heterodimer of human MutL homologs." in: **Proceedings of the National Academy of Sciences of the United States of America**, Vol. 92, Issue 6, pp. 1950-4, (1995) (PubMed).

Cleaver: "It was a very good year for DNA repair." in: **Cell**, Vol. 76, Issue 1, pp. 1-4, (1994) (PubMed).

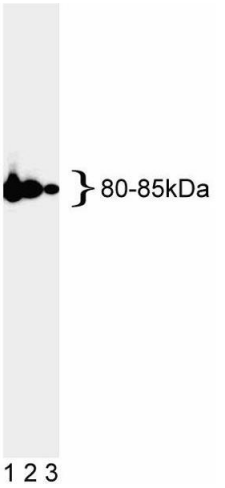
Fishel, Ewel, Lee, Lescoe, Griffith: "Binding of mismatched microsatellite DNA sequences by the human MSH2 protein." in: **Science (New York, N.Y.)**, Vol. 266, Issue 5189, pp. 1403-5, (1994) (PubMed).

Prolla, Christie, Liskay: "Dual requirement in yeast DNA mismatch repair for MLH1 and PMS1, two homologs of the bacterial mutL gene." in: **Molecular and cellular biology**, Vol. 14, Issue 1,

pp. 407-15, (1994) (PubMed).

There are more publications referencing this product on: Product page

Images



Western Blotting

Image 1. Western blot analysis of MLH1. Lysate from Jurkat cells were probed with anti-MLH1 (clone G168-15) at concentrations of 2.0 (lane 1), 1.0 (lane 2), and 0.5 µg/ml (lane 3). MLH1 is identified as a band between 80-85 kDa. Immunohistochemiical staining: Acetone-fixed, frozen tissue section of human colon carcinoma stained for MLH1 (clone G168-15) using a DAB chromogen and Hematoxylin counterstain. Cells expressing MLH-1 can be identifed by the intense brown labeling of their cell nuclei.

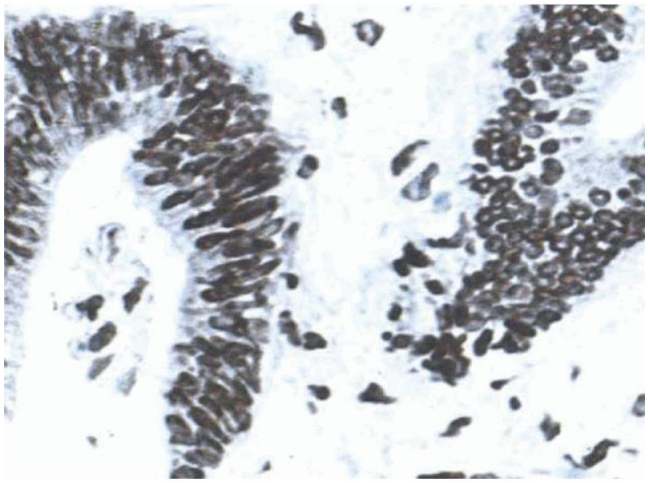
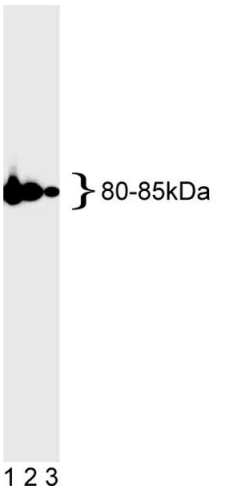


Image 2.



Western Blotting

Image 3.