Technical Data Sheet

Purified Mouse Anti-Human MLH1

**Product Information**

- **Material Number:** 554073
- **Size:** 0.1 mg
- **Concentration:** 0.5 mg/ml
- **Clone:** G168-728
- **Immunogen:** Recombinant Human MLH
- **Isotype:** Mouse IgG2a, κ

**Reactivity:**
- QC Testing: Human
- Tested in Development: Mouse

**Target MW:** 80-85 kDa

**Storage Buffer:** Aqueous buffered solution containing ≤0.09% sodium azide.

**Description**

The repair of mismatched DNA is essential to maintaining the integrity of genetic information over time. Loss of function of DNA repair enzymes can lead to an accumulation of replication errors, resulting in a mutated phenotype. DNA repair enzymes 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. The G168-728 antibody recognizes human and mouse MLH1 (80-85 kDa). Full-length human recombinant MLH was expressed as a maltose binding-MLH fusion protein, affinity purified, and used as immunogen.

**Immunoprecipitation of MLH1.** Two different monoclonal antibodies were used to immunoprecipitate MLH1 from equal amounts of whole cell extracts of NIH/3T3 mouse cells. Lane 1, a strong MLH1 band was seen with clone G168-728. Lane 2, only a faint band was seen using clone G168-15. Lane 3, an IgG2a isotype control.

**Western blot analysis of MLH1.** 30 µg of 293 cell lysate per lane was probed with 3 µg/ml (lane 1) or 1 µg/ml (lane 2) of anti-MLH1 antibody (clone G168-728).

**Preparation and Storage**

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. Store undiluted at 4°C.
Application Notes

### Application

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### Recommended Assay Procedure:
Applications include immunoprecipitation (2 µg/1x10^6 cells) and western blot analysis (1-3 µg/ml). MCF-7 human breast carcinoma (ATCC HTB-22), 293 adenovirus-transformed human kidney (ATCC CRL-1673), and NIH/3T3 mouse fibroblast (ATCC CRL-1658) are suggested as positive controls. Clone G168-15 (Cat. No. 13271A) is suggested for immunohistochemical analysis of MLH1; clone G168-15 may also be stronger for western blot analysis than clone G168-728 in some assay systems.

### Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
3. 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.

### References