**BACKGROUND**

DNA-mismatch repair (MMR) is an essential process in maintaining genetic stability. 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 an integral part of the protein complex responsible for mismatch repair that is 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. Certain cancer cell lines, including leukemia CCRF-CEM, colon HCT 116 and KM12, and ovarian cancers SK-OV-3 and IGROV-1, show complete deficiency of MLH1, while MLH1 is expressed in 60% of melanomas, 70% of noninvasive squamous cell carcinomas and 30% of invasive squamous cell carcinomas.

**CHROMOSOMAL LOCATION**

Genetic locus: MLH1 (human) mapping to 3p22.2; Mlh1 (mouse) mapping to 9 F3.

**SOURCE**

MLH1 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of MLH1 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-582 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

**APPLICATIONS**

MLH1 (C-20) is recommended for detection of MLH1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MLH1 (C-20) is also recommended for detection of MLH1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MLH1 siRNA (h): sc-35943, MLH1 siRNA (m): sc-35944, MLH1 shRNA Plasmid (h): sc-35943-SH, MLH1 shRNA Plasmid (m): sc-35944-SH, MLH1 shRNA (h) Lentiviral Particles: sc-35943-V and MLH1 shRNA (m) Lentiviral Particles: sc-35944-V.

Molecular Weight of MLH1: 85 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138, KNRK nuclear extract: sc-2141 or HeLa nuclear extract: sc-2120.

**STORAGE**

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**DATA**

- MLH1 (C-20): sc-582. Western blot analysis of MLH1 expression in NIH/3T3 (A), KNRK (B), HeLa (C) and A-431 (D) nuclear extracts.

- MLH1 (C-20): sc-582. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear staining.

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

For research use only, not for use in diagnostic procedures.

**Try MLH1 (B-12): sc-271978 or MLH1 (D-2): sc-166625, our highly recommended monoclonal alternatives to MLH1 (C-20).**