SANTA CRUZ BIOTECHNOLOGY, INC.

MSH2 (H-300): sc-22771

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The finding that mutations in DNA mismatch repair genes are associated with hereditary nonpolyposis colorectal cancer (HNPCC) has resulted in considerable interest in the understanding of the mechanism of DNA mismatch repair. Initially, inherited mutations in the MSH2 and MLH1 homologs of the bacterial DNA mismatch repair genes MutS and MutL were demonstrated at high frequency in HNPCC and were shown to be associated with microsatellite instability. The demonstration that 10 to 45% of pancreatic, gastric, breast, ovarian and small cell lung cancers also display microsatellite instability has been interpreted to suggest that DNA mismatch repair is not restricted to HNPCC tumors but is a common feature in tumor initiation or progression. Two additional homologs of the prokaryotic MutL gene, designated PMS1 and PMS2, have been identified and shown to be mutated in the germline of HNPCC patients.

REFERENCES

1. Peltomäki, P., et al. 1993. Genetic mapping of a locus predisposing to human colorectal cancer. Science 260: 810-812.
2. Ionov, Y., et al. 1993. Ubiquitous somatic mutations in simple repeated sequences reveal a new mechanism for colonic carcinogenesis. Nature 363: 558-561.
3. Papadopoulos, N., et al. 1994. Mutation of a mutL homolog in hereditary colon cancer. Science 263: 1625-1629.
4. Prolla, T.A., et al. 1994. MLH1, PMS1, and MSH2 interactions during the initation of DNA mismatch repair in yeast. Science 265: 1091-1092.
4. Palombo, F., et al. 1994. Mismatch repair and cancer. Nature 367: 417-418.
5. Bronner, C.E., et al. 1994. Mutation in the DNA mismatch repair gene homologue hMLH1 is associated with hereditary non-polyposis colon cancer. Nature 368: 258-261.

CHROMOSOMAL LOCATION

Genetic locus: MSH2 (human) mapping to 2p21; Msh2 (mouse) mapping to 17 E4.

SOURCE

MSH2 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 of MSH2 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.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

MSH2 (H-300) is recommended for detection of MSH2 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).

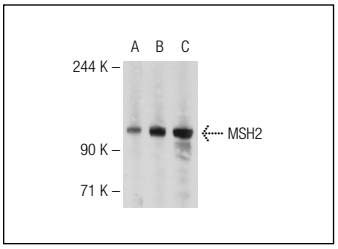
MSH2 (H-300) is also recommended for detection of MSH2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MSH2 siRNA (h): sc-35969, MSH2 siRNA (m): sc-35970, MSH2 shRNA Plasmid (h): sc-35969-SH, MSH2 shRNA Plasmid (m): sc-35970-SH, MSH2 shRNA (h) Lentiviral Particles: sc-35969-V and MSH2 shRNA (m) Lentiviral Particles: sc-35970-V.

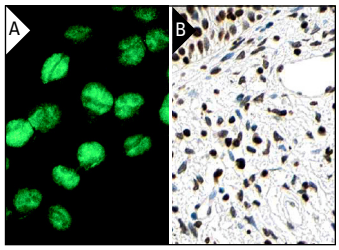
Molecular Weight of MSH2: 100 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, MM-142 cell lysate: sc-2246 or MSH2 (h): 293 Lysate: sc-172434.

DATA



MSH2 (H-300): sc-22771. Western blot analysis of MSH2 expression in non-transfected 293: sc-110760 (**A**), human MSH2 transfected 293: sc-172434 (**B**) and A-431 (**C**) whole cell lysates.



MSH2 (H-300): sc-22771. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharinx tissue showing nuclear staining of surface epithelial cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Holgersson, G., et al. 2010. Molecular profiling using tissue microarrays as a tool to identify predictive biomarkers in laryngeal cancer treated with radiotherapy. Cancer Genomics Proteomics 7: 1-7.
2. Aberdein, D., et al. 2012. Widespread mismatch repair expression in feline small intestinal lymphomas. J. Comp. Pathol. 147: 24-30.