

## **Human MSH2 Antibody**

Antigen Affinity-purified Polyclonal Sheep IgG Catalog Number: AF6780

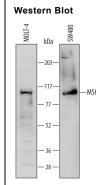
DESCRIPTION				
Species Reactivity	Human			
Specificity	Detects human MSH2 in direct ELISAs and Western blots.			
Source	Polyclonal Sheep IgG			
Purification	Antigen Affinity-purified			
Immunogen	E. coli-derived recombinant human MSH2 Ala2-Asp140 Accession # P43246			
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.			

## APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Western Blot	2 μg/mL	See Below

## DATA



Detection of Human MSH2 by Western Blot. Western blot shows lysates of MOLT-4 human acute lymphoblastic leukemia cell line and SW480 human colorectal adenocarcinoma cell line. PVDF Membrane was probed with 2  $\mu$ g/mL of Sheep Anti-Human MSH2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6780) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for MSH2 at approximately 100 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

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**Reconstitution** Sterile PBS to a final concentration of 0.2 mg/mL.

**Shipping**The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

\*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

## BACKGROUND

MSH2 (MutS Homolog 2) is a 100-106 kDa member of the mutS family of DNA mismatch repair molecules. It is a DNA binding protein that is expressed in rapidly proliferating cells, and acts in concert with multiple subunits. MSH2 forms a heterodimer with MSH6, forming MutSα. This dimer recognizes and repairs both nucleotide misparings and one or two aberrant nucleotide insertions/deletions. MSH2 also heterodimerizes with MSH3, forming MutSβ. This complex acts on DNA double-stranded breaks, and repairs large nucleotide insertions/deletions (<15 bases). MutSα is associated with BLM:p53:RAD51 complexes, while MSH2β is associated with SLX4/BTBD12 complexes. Human MSH2 is 934 amino acids (aa) in length. It contains three MutS domains (aa 18-132; 158-284; 297-612) plus an ABC transporter signature motif that may hydrolyze ATP (aa 633-852). There are multiple splice variants. One shows a premature truncation after His429, while others contain a 46 aa substitution for aa 879-934, a 29 aa substitution for aa 462-934, a 28 aa substitution for aa 783-934, a 3 aa substitution for aa 532-934, a 5 aa substitution for aa 482-934 and a 31 aa substitution for aa 379-934. Over aa 1-140, human MSH2 shares 94% aa identity with mouse MSH2.

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