

# Product Datasheet

## MLH1 Antibody (MLH1/6467) [Janelia Fluor® 646] NBP3-14122JF646

Unit Size: 0.1 ml

Store at 4C in the dark.

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**NBP3-14122JF646**

MLH1 Antibody (MLH1/6467) [Janelia Fluor® 646]

| Product Information |                                                                                             |
|---------------------|---------------------------------------------------------------------------------------------|
| Unit Size           | 0.1 ml                                                                                      |
| Concentration       | Please see the vial label for concentration. If unlisted please contact technical services. |
| Storage             | Store at 4C in the dark.                                                                    |
| Clonality           | Monoclonal                                                                                  |
| Clone               | MLH1/6467                                                                                   |
| Preservative        | 0.05% Sodium Azide                                                                          |
| Isotype             | IgG1 Kappa                                                                                  |
| Conjugate           | Janelia Fluor 646                                                                           |
| Purity              | Protein A or G purified                                                                     |
| Buffer              | 50mM Sodium Borate                                                                          |

| Product Description     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host                    | Mouse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Gene ID                 | 4292                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Gene Symbol             | MLH1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Species                 | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Reactivity Notes        | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Specificity/Sensitivity | This monoclonal antibody recognizes a protein of 83kDa, identified as MLH1. Defects in MLH1 are the cause of hereditary non-polyposis colorectal cancer type 2 (HNPCC2). Heterodimerizes with PMS2 to form MutL alpha, a component of the post-replicative DNA mismatch repair system (MMR). DNA repair is initiated by MutS alpha (MSH2-MSH6) or MutS beta (MSH2-MSH6) binding to a dsDNA mismatch, then MutL alpha is recruited to the heteroduplex. Assembly of the MutL-MutS-heteroduplex ternary complex in presence of RFC and PCNA is sufficient to activate endonuclease activity of PMS2. It introduces single-strand breaks near the mismatch and thus generates new entry points for the exonuclease EXO1 to degrade the strand containing the mismatch. DNA methylation would prevent cleavage and therefore assure that only the newly mutated DNA strand is going to be corrected. MutL alpha (MLH1-PMS2) interacts physically with the clamp loader subunits of DNA polymerase III, suggesting that it may play a role to recruit the DNA polymerase III to the site of the MMR. Also implicated in DNA damage signaling, a process, which induces cell cycle arrest and can lead to apoptosis in case of major DNA damages. Heterodimerizes with MLH3 to form MutL gamma, which plays a role in meiosis. |
| Immunogen               | Recombinant full-length human MLH1 protein (Uniprot: P40692)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Notes                   | Sold under license from the Howard Hughes Medical Institute, Janelia Research Campus.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Product Application Details |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| Applications                | Immunohistochemistry-Paraffin                                          |
| Recommended Dilutions       | Immunohistochemistry-Paraffin                                          |
| Application Notes           | Optimal dilution of this antibody should be experimentally determined. |





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### **Products Related to NBP3-14122JF646**

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|                    |                                                    |
|--------------------|----------------------------------------------------|
| H00004292-Q01-10ug | Recombinant Human MLH1 GST (N-Term) Protein        |
| H00004292-P01-10ug | Recombinant Human MLH1 GST (N-Term) Protein        |
| AF2535             | MMR/CD206/Mannose Receptor Antibody [Unconjugated] |
| AF748              | E-Cadherin Antibody [Unconjugated]                 |

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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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