**LD Biopharma, Inc.**
9924 Mesa Rim Road, Suite B
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# - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human MSI2 Protein
**Catalog Number:** hTF-1906
**Manufacturer:** LD Biopharma, Inc.

## Introduction

Human RNA-binding protein Musashi homolog 2 (MSI2) gene encodes an RNA-binding protein that is a member of the Musashi protein family. The encoded protein is transcriptional regulator that targets genes involved in development and cell cycle regulation. It may play a role in the proliferation and maintenance of stem cells in the central nervous system. Recent data indicated that MSI2 is very important factor for expand HSC in vitro. Mutations in this gene are associated with poor prognosis in certain types of cancers. This gene has also been shown to be rearranged in certain cancer cells.

Full-length human MSI2 cDNA (327aa, Isoform-A) was constructed with codon optimization using gene synthesis technology and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. It was expressed in E.coli as inclusion bodies. The final product was refolded using our unique "temperature shift inclusion body refolding" technology and chromatographically purified.

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| **Gene Symbol:** | MSI2 (MSI2H) |
| **Accession Number:** | NP_620412 |
| **Species:** | Human |
| **Size:** | 50 µg / Vial |
| **Composition:** | 0.5 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT. |
| **Storage:** | In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days. |

## Key References

Stefan Rentas. et al., *Musashi-2 attenuates AHR signaling to expand human haematopoietic stem cells*. Nature. Vol:532. April:28. 508-511 (2016)

Aly RM. et al., *Prognostic significance of MSI2 predicts unfavorable outcome in adult B-acute lymphoblastic leukemia*. Int J Lab Hematol 37 (2), 272-278 (2015)

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Park,S.M., et al., *Musashi2 sustains the mixed-lineage leukemia-driven stem cell regulatory program*. J. Clin. Invest. 125 (3), 1286-1298 (2015)

## Applications

1. May be used for in vitro MSI2 mediated gene transcription regulation for HSC or neuronal cell's differentiation study by intracellular delivery of this protein with protein-delivery reagent such as "ProFectin" reagent kit.

2. May be used for mapping MSI2 protein-protein interaction.

3. May be used as specific substrate protein for kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.

4. Potential biomarker protein for cancer prognosis, such as *adult B-acute lymphoblastic leukemia*.

5. As immunogen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGEFEANGSQGTSGSANDSQHDPGKMFIGGLSWQTSPDS
LRDYFSKFGEIRECMVMRDPTTKRSRGFGFVTFADPASVDKVLGQPHHELDSKTIDPKVAFPRR
AQPKMVTRTKKIFVGGLSANTVVEDVKQYFEQFGKVEDAMLMFDKTTNRHRGFGFVTFENEDVV
EKVCEIHFHEINNKMVECKKAQPKEVMFPPGTRGRARGLPYTMDAFMLGMGMLGYPNFVATYGR
GYPGFAPSYGYQFPGFPAAAYGPVAAAAVAAARGSGSNPARPGGFPGANSPGPVADLYGPASQD
SGVGNYISAASPQPGSGFGHGIAGPLIATAFTNGYH