



**LD Biopharma, Inc.**  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human HoxA9 Protein  
**Catalog Number:** hTF-1093  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

In vertebrates, the genes encoding the class of transcription factors called homeobox genes are found in clusters named A, B, C, and D on four separate chromosomes. Expression of these proteins is spatially and temporally regulated during embryonic development. Human HoxA9 gene is part of the A cluster on chromosome 7 and encodes a DNA-binding transcription factor which may regulate gene expression, morphogenesis, and differentiation. Human HoxA9 gene is highly similar to the abdominal-B (Abd-B) gene of *Drosophila*. A specific translocation event which causes a fusion between this gene and the NUP98 gene has been associated with myeloid leukemogenesis. Read-through transcription exists between this gene and the upstream homeobox A10 (HOXA10) gene.

Full-length human HoxA9 cDNA (272aa) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is expressed in *E.coli* as inclusion bodies. The final product was refolded using our unique "temperature shift inclusion body refolding" technology and chromatographically purified.

**Gene Symbol:** HoxA9 (ABD-B; Hox1; Hox1.7; Hox1G)  
**Accession Number:** NP\_689952  
**Species:** Human  
**Size:** 25 µg / Vial  
**Composition:** 0.25 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.



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## Key References

Ko,S.Y., et al., *HOXA9 promotes ovarian cancer growth by stimulating cancer-associated fibroblasts*. J. Clin. Invest. 122 (10), 3603-3617 (2012)

He,M., et al., *Two isoforms of HOXA9 function differently but work synergistically in human MLL-rearranged leukemia*. Blood Cells Mol. Dis. 49 (2), 102-106 (2012)

Qiu,Y., et al., *Combinatorial readout of unmodified H3R2 and acetylated H3K14 by the tandem PHD finger of MOZ reveals a regulatory mechanism for HOXA9 transcription*. Genes Dev. 26 (12), 1376-1391 (2012)

## Applications

1. May be used for in vitro HoxA9 mediated endothelial cell differentiation regulation study with “ProFectin” based intracellular delivery of this protein.
2. May be used as specific substrate protein for kinase and ubiquitin (Sumo pathway) related enzyme functional screening assays.
3. May be used for protein-protein interaction mapping
4. Potential biomarker protein when combined with Id1 protein for lymph node metastasis in breast cancer diagnosis.
5. As antigen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFATTGALGNYYVDSFLLGADAADELSVGRYAPGTLG  
QPPRQAATLAEHPDFSPCSFQSKATVFGASWNPVHAAGANAVPAAVYHHHHHPYVHPQAPVAA  
AAPDGRYMRSWLEPTPGALSFAGLPSSRPYGIKPEPLSARRGDCPTLDTHLSLTDYACGSPPV  
DREKQPSEGAFSENNAENESGGDKPPIDPNNPAANWLHARSTRKKRCPYTKHQTLELEKEFLFN  
MYLTRDRRYEVARLLNLTERQVKIWFQNRMMKMKKINKDRAKDE