



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

**Name of Product:** Recombinant Human SIRT6 Protein  
**Catalog Number:** hRP-1049  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human NAD-dependent protein deacetylase sirtuin-6 (SIRT6) gene encodes a member of the sirtuin family of proteins, homologs to the yeast Sir2 protein. Studies suggest that the human sirtuins may function as intracellular regulatory proteins with NAD-dependent protein deacetylase activity, has deacetylase activity towards histone H3K9Ac and H3K56Ac. Recent data indicated that human SIRT6 plays a role in the regulation of life span.

Full-length human SIRT6 cDNA (355 aa, Isoform\_1) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein 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.

**Gene Symbol:** SIRT6 (SIR2L6)  
**Accession Number:** NP\_057623.2  
**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

Liu,T.F., et al., *NAD<sup>+</sup>-dependent sirtuin 1 and 6 proteins coordinate a switch from glucose to fatty acid oxidation during the acute inflammatory response.* J. Biol. Chem. 287 (31), 25758-25769 (2012)

Mao,Z., et al., *Sirtuin 6 (SIRT6) rescues the decline of homologous recombination repair during replicative senescence.* Proc. Natl. Acad. Sci. U.S.A. 109 (29), 11800-11805 (2012)



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Baohua, Y. et al., *Effects of SIRT6 silencing on collagen metabolism in human dermal fibroblasts*. Cell Biol. Int. 36 (1), 105-108 (2012)

## **Applications**

1. May be used for in vitro SIRT6 mediated fatty acid oxidation during the acute inflammatory response 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. As antigen for specific antibody production.

## **Quality Control**

Purity: > 90% by SDS-PAGE.

## **Recombinant Protein Sequence**

MASMTGGQQMGRGHHHHHGNLYFQGGEFSVNYAAGLSPYADKKGKGLPEIFDPPEELERKVWE  
LARLVWQSSSVVFHTGAGISTASGIPDFRGPBGVWTMEERGLAPKFDTTFESARPTQTHMALVQ  
LERVGLLRFLVSNVDGLHVRSGFPRDKLAELHGNNMFVEECAKCKTQYVRDVTVGTMLKATGR  
LCTVAKARGLRACRGELRDTILDWEDSLPDRDLALADEASRNADLSITLGTSLQIRPSGNLPLA  
TKRRGGRLVIVNLQPTKHDRHADLR IHGYVDEVMTRLMKHLGLEIPAWDGPRVLERALPPLPRP  
PTPKLEPKKEESPTRINGSIPAGPKQEPCAQHNGSEPASPKRERPTSPAPHRPPKRVKAKAVPS