LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Histone H3.1 Protein
Catalog Number: hRP-0492
Manufacturer: LD Biopharma, Inc.

Introduction

Histones are basic nuclear proteins that are responsible for the nucleosome structure of the chromosomal fiber in eukaryotes. Two molecules of each of the four core histones (H2A, H2B, H3, and H4) form an octamer, around which approximately 146 bp of DNA is wrapped in repeating units, called nucleosomes. The linker histone, H1, interacts with linker DNA between nucleosomes and functions in the compaction of chromatin into higher order structures. Human Histone H3.1 is intronless and encodes a member of the histone H3 family. Various posttranslational modifications on Histone 3, such as Histone methylation, acetylation, propionylation, butyrylation, formylation, phosphorylation, uniquitylation, sumoylation, citrillination, proline isomerization and ADP ribosylation play an important role for Epigenomic regulation.

Full-length recombinant human Histone H3.1 was constructed with codon optimization and expressed in N-terminal T7-His-TEV cleavage site fusion Tag (29aa) form. This protein was expressed in E. coli as inclusion bodies, refolded using our unique "temperature shift inclusion body refolding" technology and chromatographically purified. Being refolded from inclusion body, this recombinant Histone H3.1 protein does not have any post-translational modification. It may serves as an excellent substrate histone protein for various enzymatic function assays.

Gene Symbol:	HIST1H3E
Accession Number:	NP_003523
Species:	Human
Size:	50 µg / Vial
Composition:	0.2 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 -20°C for long term storage. Product is stable at 4 °C for at least 30 days.

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Key References

Motallebipour,M., et al. *Differential binding and co-binding pattern of FOXA1 and FOXA3 and their relation to H3K4me3 in HepG2 cells revealed by ChIP-seq.* Genome Biol. 10 (11), R129 (2009)

Loyola,A., et al. *PTMs on H3 variants before chromatin assembly potentiate their final epigenetic state.* Mol. Cell 24 (2), 309-316 (2006)

Minjia Tan, et al. *identification of 67 Histone marks and histone lysine crotonylation as a new type of histone modification*. Cell. 146. 1016-1028. (2011)

Applications

1. As native, soluble and non-modified human Histone protein, may be used as specific substrate for enzymatic assays, such as methylation and phosphorylation, et al.
2. May be used as antigen for specific antibody production.

Quality Control

1. Purity: > 90% by SDS-PAGE.
2. Functional Test: Not tested yet.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHGNLYFQG^GEFARTKQTARKSTGGKAPRKQLATKAARKSAPATGG
VKKPHRYRPGTVALREIRRYQKSTELLIRKLPFQRLVREIAQDFKTDLRFQSSAVMALQEACEA
YLVGLFEDTNLCAIHAKRVTIMPKDIQLARRIRGERA