Histone H3 Protein, Human (His)

Cat. No.:	HY-P72798
Synonyms:	Histone H3.1; Histone H3
Species:	Human
Source:	E. coli
Accession:	P68431 (A2-A136)
Gene ID:	8350
Molecular Weight:	Approximately 18 kDa

PROPERTIES

AA Sequence	A R T K Q T A R K S T G G K A P R K Q L A T K A A R K S A P A T G G V K K P H R Y R P G T V A L R E I R R Y Q K S T E L L I R K L P F Q R L V R E I A Q D F K T D L R F Q S S A V M A L Q E A C E A Y L V G L F E D T N L C A I H A K R V T I M P K D I Q L A R R I R G E R A
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4 or 50 mM Tris-HCL, 300 mM NaCl, 200 mM arginine, pH 8.0.
Endotoxin Level	/
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Histone H3, a fundamental component of the nucleosome, serves as a linchpin in the intricate process of wrapping and compacting DNA into chromatin, which in turn restricts DNA accessibility to cellular machineries requiring DNA as a template. This histone, alongside its counterparts, assumes a pivotal role in pivotal cellular functions, including transcription regulation, DNA repair, DNA replication, and the maintenance of chromosomal stability. The regulation of DNA accessibility involves a sophisticated interplay of post-translational modifications collectively referred to as the histone code, coupled with the dynamic remodeling of nucleosomes. The nucleosome itself comprises a histone octamer, composed of two molecules each of H2A, H2B, H3, and H4, assembled in one H3-H4 heterotetramer and two H2A-H2B heterodimers. This octamer efficiently wraps approximately 147 base pairs of DNA, exemplifying its indispensable role in

organizing chromatin structure and facilitating crucial genomic processes. Additionally, Histone H3 interacts with various cellular components such as TONSL, CHAF1A, CHAF1B, MCM2, and DNAJC9, further contributing to its multifaceted functions.

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