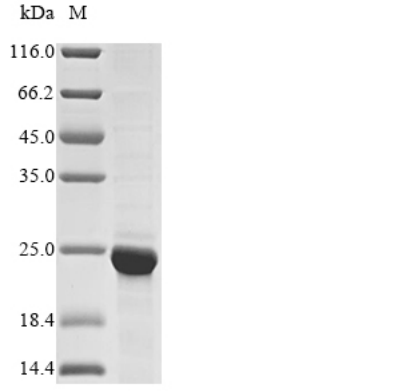
Recombinant Mouse Histone H2B type 1-A (Hist1h2ba)

Product Code	CSB-EP010401MO
Abbreviation	Recombinant Mouse Hist1h2ba protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P70696
Product Type	Recombinant Proteins
Immunogen Species	Mus musculus(Mouse)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	PEVAVKGATISKKGFKKAVTKTQKKEGRKRKRCRKESYSIYIYKVLKQVHPDTG ISSKAMSIMNSFVTDIFERIASEASRLAHYNKRSTITSREIQTAVRLLLPGELAKH AVSEGTKAVTKYTSSK
Research Area	Others
Source	E.coli
Target Names	Hist1h2ba
Protein Names	Recommended name: Histone H2B type 1-A Alternative name(s): Histone H2B, testis Testis-specific histone H2B
Expression Region	2-127aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged
Mol. Weight	21.5 kDa
Protein Length	Full Length of Mature Protein
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Mouse Histone H2B type 1-A (Hist1h2ba) is expressed in E.coli and covers the full length of the mature protein (2-127aa). The construct includes an N-terminal 10xHis tag and a C-terminal Myc tag, which help with purification and detection. SDS-PAGE analysis shows the protein reaches greater than 85% purity, suggesting it's well-suited for research work.

Histone H2B appears to be a core component of the nucleosome and likely plays an important role in how chromatin gets organized and compacted inside the cell nucleus. The protein takes part in nucleosome formation - something that seems fundamental to DNA packaging and regulation. Research involving chromatin dynamics, gene expression control, and epigenetic changes often relies on this protein, since understanding these cellular processes at the molecular level may require it.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Chromatin Reconstitution and Nucleosome Assembly Studies

This recombinant mouse histone H2B works well when combined with other core histones (H2A, H3, and H4) to rebuild nucleosomes and chromatin structures in the lab. Both His and Myc tags make purification and detection straightforward during chromatin assembly experiments. Scientists can examine nucleosome positioning, chromatin compaction, and how histones interact with DNA using this purified component. Since the E. coli expression system produces protein without eukaryotic post-translational modifications, researchers get a clean starting point for studying specific histone modifications.

2. Histone-Protein Interaction Studies

The dual tagging system - N-terminal His and C-terminal Myc - makes this H2B protein particularly useful for pull-down assays aimed at finding and characterizing proteins that bind to histone H2B. Nickel-based resins can immobilize the protein through its His tag, while the Myc tag allows detection and confirmation of binding partners via Western blotting or immunofluorescence. This method may help identify chromatin remodeling complexes, transcription factors, or other nuclear proteins that specifically associate with H2B in mouse systems.

3. Antibody Development and Validation

This recombinant mouse H2B protein works as a solid antigen for creating specific antibodies against mouse histone H2B or for testing existing ones. High purity (>85%) combined with the dual tagging system allows thorough antibody characterization through ELISA, Western blotting, and immunoprecipitation

assays. Scientists can test antibody specificity with this protein, figure out optimal working concentrations, and develop standardized protocols for detecting H2B in mouse cell and tissue samples.

4. Biochemical Characterization and Structural Studies

The purified recombinant H2B proves useful for detailed biochemical analysis, including protein stability studies, thermal denaturation experiments, and structural characterization techniques. Expression in E. coli gives researchers a reliable source for biophysical studies like circular dichroism spectroscopy, dynamic light scattering, or analytical ultracentrifugation. The dual tags make protein quantification and tracking easier during various experimental conditions. This setup allows scientists to study H2B folding, stability, and conformational changes under different buffer conditions or when potential binding partners are present.

Shelf Life

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