

HIST2H2BE Protein, Human, Recombinant

General Information

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| Synonyms: | MGC129734;H2BGL105;H2B.1;histone cluster 2, H2be;H2B;H2BFQ;GL105;MGC119802;H2BQ;MGC119804;MGC129733 |
| Protein Construction: | A DNA sequence encoding the human HIST2H2BE (Q16778) (Met 1-Lys 126) was expressed and purified. Predicted N terminal: Met |
| Species: | Human |
| Expression Host: | E. coli |
| Accession: | Q16778 |
| Molecular Weight: | 14.2 kDa (predicted); 16 kDa (reducing conditions) |

QC Testing

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| Biological Activity: | Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first. |
| Purity: | > 95 % as determined by SDS-PAGE |
| Endotoxin: | Please contact us for more information. |
| Formulation: | Lyophilized from a solution filtered through a 0.22 µm filter, containing 2 mM β-Mercaptoethanol, pH 6.9. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization. |

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Histones are a complex family of highly conserved basic proteins responsible for packaging chromosomal DNA into nucleosomes. Histone proteins exhibit two levels of diversity: 1. evolutionary diversity between species and 2. subtype diversity in a class (H1, H2A, H2B, H3 or H4) within a species. It has become more and more evident that histone modifications are key players in the regulation of chromatin states and dynamics as well as in gene

expression. Therefore, histone modifications and the enzymatic machinery that set them are crucial regulators that can control cellular proliferation, differentiation, plasticity, and malignancy processes. However, extracellular histones are a double-edged sword because they also damage host tissue and may cause death. Histones bound to platelets, induced calcium influx, and recruited plasma adhesion proteins such as fibrinogen to induce platelet aggregation. Histone H2B proteins have been studied in a variety of species and are easily detected in most species. The reversible ubiquitylation of histone H2B has long been implicated in transcriptional activation and gene silencing. Phosphorylation of H2B serine 32 occurs in normal cycling and mitogen-stimulated cells. Notably, this phosphorylation is elevated in skin cancer cell lines and tissues compared with normal counterparts. HIST2H2BE is a member of the histone H2B family and generates two transcripts through the use of the conserved stem-loop termination motif, and the polyA addition motif.

Reference

- Fuchs TA, et al. (2011) Histones induce rapid and profound thrombocytopenia in mice. *Blood*. 118(13): 3708-14.
- Collart D, et al. (1993) A human histone H2B.1 variant gene, located on chromosome 1, utilizes alternative 3' end processing. *J Cell Biochem*. 50 (4): 374-85.
- Marzluff WF, et al. (2002) The human and mouse replication-dependent histone genes. *Genomics*. 80 (5): 487-98.
- Wang HB, et al. (2004) Role of histone H2A ubiquitination in Polycomb silencing. *Nature*. 431: 873-8.

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