PRODUCT INFORMATION



CBX1 (human recombinant)

Item No. 14768

Overview and Properties

Synonyms:	Chromobox Protein Homolog 1, Heterochromatin Protein 1 Homolog β , Heterochromatin Protein p25, HP1- β , HP1Hs- β , M31, Modifier 1 Protein, p25 β
Source:	Recombinant N-terminal GST-tagged protein expressed in E. coli
Amino Acids:	2-184 (full length)
Uniprot No.:	P83916
Molecular Weight:	48.9 kDa
Storage:	-80°C (as supplied)
Stability:	≥6 months
Purity:	≥95%
Supplied in:	50 mM Tris-HCl, pH 8.0, with 150 mM sodium chloride and 20% glycerol
Protein	
Concentration:	<i>batch specific</i> mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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1180 EAST ELLSWORTH RD ANN ARBOR, MI 48108 · USA PHONE: [800] 364-9897 [734] 971-3335 FAX: [734] 971-3640 CUSTSERV@CAYMANCHEM.COM WWW.CAYMANCHEM.COM

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Description

The heterochromatin protein 1 (HP1) family, which consists of three isoforms HP1 α (CBX5), HP1 β (CBX1), and HP1 γ (CBX3) are chromatin-associated proteins involved in gene regulation and heterochromatin formation.¹ CBX proteins have an N-terminal chromodomain, a C-terminal chromoshadow domain (CSD), and a hinge domain which connects the two.² Extensive post-translational modifications have been observed and mapped on the CBX proteins.³ The chromodomain of CBX1 has been shown to recognize di- and tri-methylated lysine 9 on histone H3 (H3K9me2 and H3K9me3), with a preference for H3K9me3. Binding of CBX1 to methylated histones leads to gene silencing and heterochromatin formation.^{1,4} The CSD region of CBX1 is responsible for homodimerization and interaction with a number of non-histone chromatin-associated proteins, including the BRCA2-interacting protein EMSY, which may be involved in the development of breast and ovarian cancer.⁵⁻⁷ CBX1 also helps to reorganize chromatin as part of the DNA damage response systems by binding to sites of DNA damage through the CSD region.^{8,9}

References

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