PRODUCT INFORMATION

CBX1 (human recombinant)

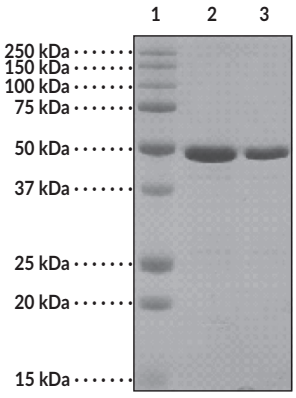
Item No. 14768

Overview and Properties

Synonyms:	Chromobox Protein Homolog 1, Heterochromatin Protein 1 Homolog β, Heterochromatin Protein p25, HP1-β, HP1Hs-β, M31, Modifier 1 Protein, p25β
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:	***batch specific*** mg/ml

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

Image



Lane 1: MW Markers
Lane 2: CBX1 (5 µg)
Lane 3: CBX1 (2.5 µg)

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Description

The heterochromatin protein 1 (HP1) family, which consists of three isoforms HP1α (CBX5), HP1β (CBX1), and HP1γ (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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