PRODUCT DATASHEET

CREBBP (His) (CREB-binding protein; CBP)

CATALOG NO.: RD-11-211 **LOT NO.:**

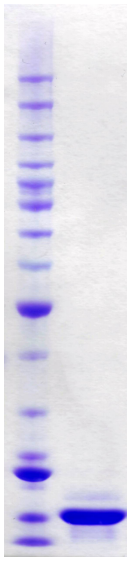
DESCRIPTION: Human recombinant CREBBP bromodomain (residues 1081-1197; Genbank Accession # NM_004380; MW = 16.7 kDa) expressed in *E. coli* with an N-terminal His-tag. CREBBP and the closely related p300 are major regulators of gene transcription (co-activators) and function as lysine acetyltransferases for histones (i.e. HATs) and for numerous other proteins (e.g. p53). Aside from the acetyllysine-binding bromodomain and the catalytic HAT domain, native CREBBP comprises multiple protein-protein interaction domains (3 Cys-His-rich (CH) domains, KIX domain, steroid receptor co-activator interaction domain (SID)) and also has E3 and E4 ubiquitin ligase activities. (See reviews and references therein[1,2].) The CREBBP bromodomain binds various Lys(Ac) residues in singly acetylated histone peptide microarrays (histones H1.4, H2A, H3, H4) with binding to histone H3 K56(Ac) confirmed in solution by isothermal titration calorimetry (ITC)[3]. A solution structure of the CREBBP bromodomain in complex with a p53K382(Ac) peptide has been determined by NMR[4]. Selective inhibitors of the CREBBP/p300 bromodomains have been developed (SGC-CBP30, I-CBP112; see figure below) and co-crystal structures with the CREBBP bromodomain determined (MMDB IDs: 116129/116130; PDB IDs: 4NR6/4NR7).

PURITY: >90% by SDS-PAGE

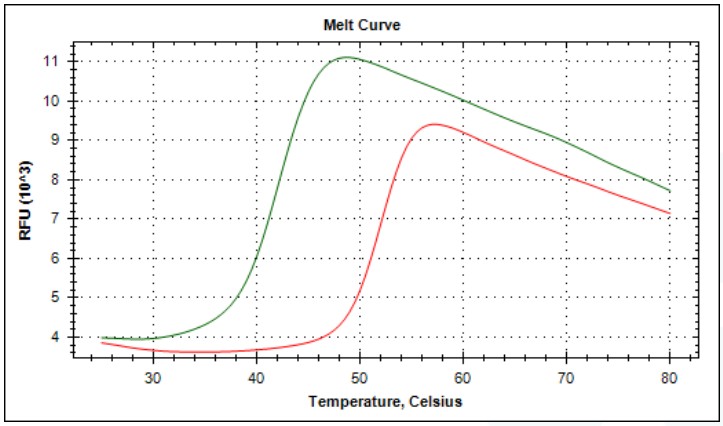
SUPPLIED AS: _ µg/µL in 50 mM Tris-HCl pH 7.5, 500 mM NaCl, 1 mM TCEP, 10% glycerol (v/v) as determined by OD_{280}.

STORAGE: -70°C. Thaw quickly and store on ice before use. The remaining, unused, undiluted protein should be snap frozen, for example in a dry/ice ethanol bath or liquid nitrogen. Minimize freeze/thaws if possible, but very low volume aliquots (<5 µl) or storage of diluted protein is not recommended.

REFERENCES: 1) L. Wang *et al. Curr. Opin. Struct. Biol.* 2008 **18** 741; 2) P.-H. Holmqvist & M. Mannervik *Transcription* 2013 **4** 18; 3) P. Filippakopoulos *et al. Cell* 2012 **149** 214; 4) S. Mujtaba *et al. Mol. Cell* 2004 **13** 251



Coomassie blue stained SDS-PAGE (4-12% acrylamide) of 5 µg of CREBBP (His). MW markers (left) are, from top, 220, 160, 120, 100, 90, 80, 70, 60, **50**, 40, 30, 25, **20**, 15, 10 kDa.



Differential Scanning Fluorimetry of RBC CREBBP (His) Thermal denaturation of CREBBP (His) is detected (CFX384 TMTouch thermal cycler, 'FRET' channel; Bio- Rad) by increased binding and fluorescence of the dye SYPRO®Orange (Life Technologies). Addition of 25 µM SGC-CBP30 (red) stabilizes the protein folding and shifts the Tm (inflection point) from 42°C to 52°C.

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