REACTION BIOLOGY

PRODUCT DATASHEET

BAZ1B (His) (Bromodomain adjacent to zinc finger domain protein 1B; WSTF)

CATALOG NO.: RD-11-208 **LOT NO.:**

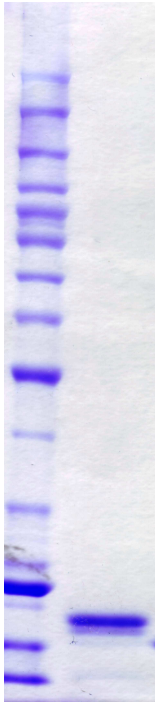
DESCRIPTION: Human recombinant BAZ1B bromodomain (residues 1340-1457; Genbank Accession # NM_032408; MW = 17.1 kDa) expressed in *E. coli* with C-terminal His- and Strep-tags. BAZ1B (WSTF) is a key subunit of several ATP-dependent chromatin remodeling complexes with activities in nucleosome and chromatin assembly, in transcriptional regulation (at vitamin D-receptor (VDR) target genes) and in DNA replication and repair (see review[1]). The full-length protein comprises multiple domains, including the N-terminal domain which confers the atypical tyrosine kinase activity responsible for H2A.X Tyr142 phosphorylation, a key regulatory mark in the DNA damage response[2,3]. The BAZ1B bromodomain displays affinity for several acetylated histone tail peptides, particularly ones incorporating H3K14(Ac)[4]. Interaction between BAZ1B and the gene promoter for the vitamin D synthetic enzyme 25(OH)D_3 1α-hydroxylase, most likely mediated by bromodomain binding to acetylated histones, is necessary for ligand-dependent transcriptional repression by VDR[4]. By virtue of its regulatory role in aromatase gene expression, BAZ1B may hold potential as a target for therapy in estrogen-dependent breast cancer[5].

PURITY: >85% by SDS-PAGE

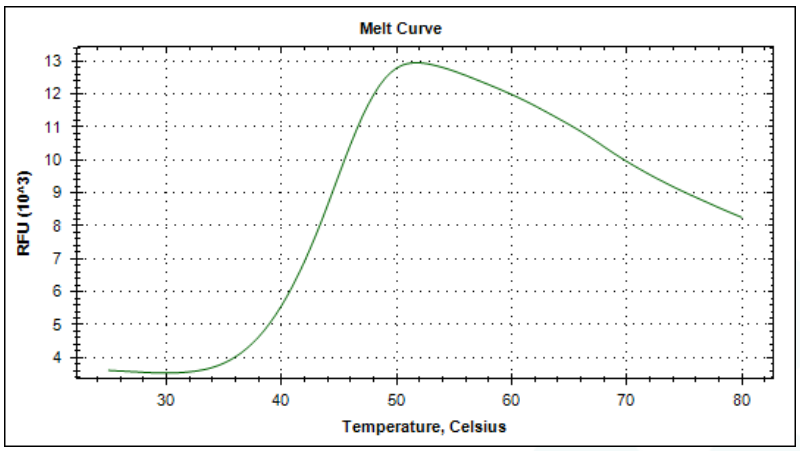
SUPPLIED AS: _ µg/µL in 50 mM Tris HCl, pH 7.5, 500 mM NaCl, 1 mM TCEP, 10% glycerol (v/v) as determined by OD_{280}

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) C. Barnett & J.E. Krebs *Biochem. Cell Biol.* 2011 **89** 12; 2) A. Xiao *et al. Nature* 2009 **457** 57; 3) N. Singh *et al. Proc. Natl. Acad. Sci. USA* 2012 **109** 14381; 4) R. Fujiki *et al. EMBO J.* 2005 **24** 3881; 5) J. Lundqvist *et al. Biochim. Biophys. Acta* 2013 **1833** 40



Coomassie blue-stained SDS-PAGE (4-12% acrylamide) of 4 µg of RBC BAZ1B (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 BAZ1B (His): Thermal denaturation of BAZ1B (His) is detected (CFX384TM Touch thermal cycler, 'FRET' channel; Bio- Rad) by increased binding and fluorescence of the dye SYPRO®Orange (Life Technologies). The apo form of BAZ1B (His) displays a Tm of 44.5°C and is not stabilized in the presence of various known bromodomain ligands (JQ1, PFI1, CBP112, Bromosporine, SGC-CBP30, BET151 and RVX-208; all tested at 25 µM; not shown).

Reaction Biology
1 Great Valley Parkway, Malvern PA, USA 19355
requests@reactionbiology.com www.reactionbiology.com