REACTION BIOLOGY

PRODUCT DATASHEET

BPTF-[PHD-BRD] (GST)

CATALOG NO.: RD-11-241 **LOT NO.:**

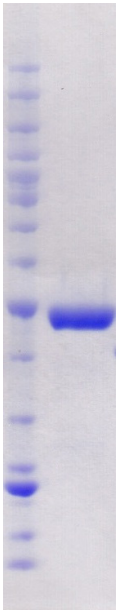
DESCRIPTION: Human recombinant BPRF bromodomain (residues 2722- 2920; Genbank Accession # NM_182641; MW = 50.26 kDa) expressed in *E.coli* with an N-terminal GST tag. Full-length BPTF[1,2] is a DNA and histone-binding component of the NURF nucleosome remodeling complex (see review[3]). This construct comprises BPTF's second PHD zinc-finger, which primarily binds histone H3K4me3[4,5], and the adjacent bromodomain, which has binding affinity for various histone tail acetyllysines[6,7], including H4 K5Ac[7], K12Ac[6] and K16Ac[6]. BPTF expression is elevated in developing neurons[8], but also in neuronal tissue under various neurodegenerative conditions[9,10]. Amplification of the BPTF-coding chromosomal locus is prevalent in various cancers and knockdown of BPTF restricts proliferation in cultured cells with an engineered pre-malignant phenotype[11].

PURITY: >95% by SDS-PAGE

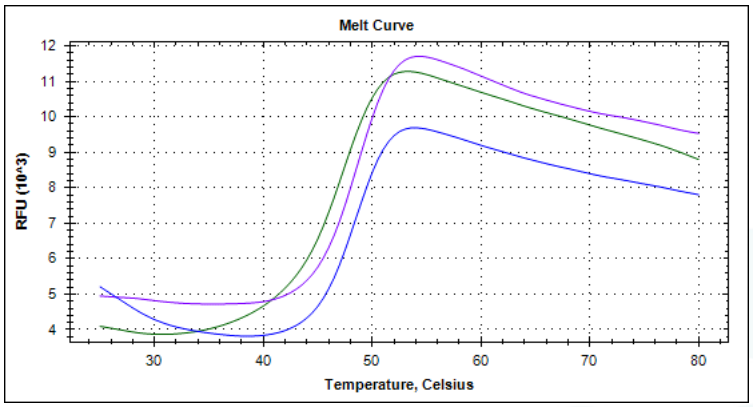
SUPPLIED AS: _ µg/µL in 50 mM Tris HCl, pH 7.5, 500 mM NaCl, 1 mM TCEP, 10 % glycerol as determined by OD_{280}

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 enzyme is not recommended.

REFERENCES: 1) K.L. Jordan-Sciutto *et al. J. Biol. Chem.* 1999 **274** 35262; 2) M.H. Jones *et al.* Genomics 2000 **63** 35; 3) S.G. Alkhatib & J.W. Landry *FEBS Lett.* 2011 **585** 3197; 4) H. Li *et al. Nature* 2006 **442** 91; 5) H. Li *et al. Mol. Cell* 2007 **28** 677; 6) A.J. Ruthenburg *et al. Cell* 2011 **145** 692; 7) P. Filippakopoulos *et al. Cell* 2012 **149** 214; 8) K.L. Jordan-Sciutto *et al. Biochem. Biophys. Res.* 1999 **260** 785; 9) S. Schoonover *et al. J. Neuropathol. Exp. Neurol.* 1996 **55** 444; 10) X. Mu *et al. Exp. Neurol.* 1997 **146** 17; 11) Y. Buganim *et al. PLoS One* 2010 **5** e9657



Coomassie blue-stained SDS-PAGE (4-12% acrylamide) of 4 ug of RBC BPTF-[PHD-BRD] (GST). MW markers (lane 1) (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 BPTF-[PHD-BRD] (GST) in presence or absence of common bromodomain ligands. Thermal denaturation of BPTF-[PHD-BRD] (GST) 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 Bromosporine(blue) and RVX-208 (purple) stabilizes the protein folding and shifts the Tm (inflection point) from 47.5°C to 48.5°C.

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