PRODUCT DATASHEET

BRD1 (GST) (Bromodomain-containing protein 1; BRL; BRPF-2)

CATALOG NO.: RD-11-190 **LOT NO.:**

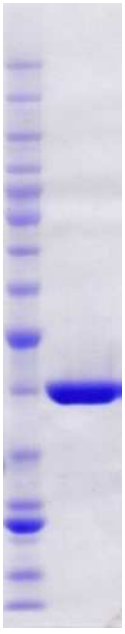
DESCRIPTION: Human recombinant BRD1 bromodomain (residues 556-688; Genbank Accession # NM_014577; MW = 42.4 kDa) expressed as an N-terminal GST-fusion protein in *E. coli*. Native BRD1 (BRPF-2) contains, in addition to its acetyllysine-binding bromodomain[1], two other histone binding domains—a PWWP domain (histone H3 K79me2/3 & K36me3 binding)[2] and a PHD zinc-finger (PHD1, N-terminal tail, unmodified histone H3 binding)[3]—as well as a DNA binding domain (PHD2)[4]. Although assumed, like fellow family members BRPF-1 and BRPF-3 to perform a scaffolding function as part of MOZ/MORF histone acetyltransferase (HAT) complexes, BRD1 has been shown to form a complex with another MYST-family HAT, HBO1, plus ING4, and to be required for H3K14 acetylation and erythropoiesis[5]. A crystal structure of the BRD1 bromodomain has been determined (MMDB ID: 91027, PDB ID: 3RCW)[6].

PURITY: >95% by SDS-PAGE

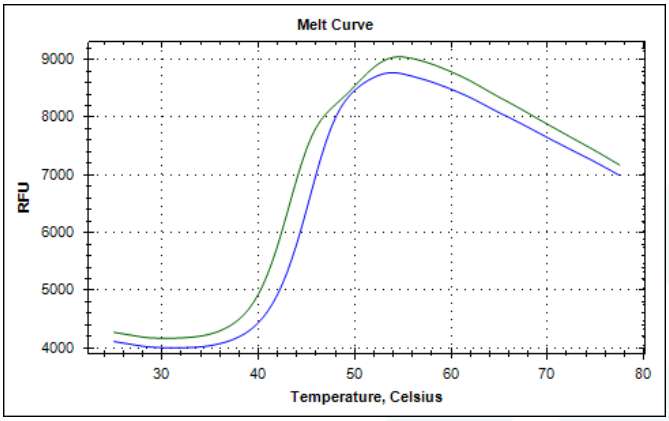
SUPPLIED AS: _ µg/µL in 50 mM HEPES, pH 7.0, 500 mM NaCl, 1 mM TCEP, 10 % glycerol as determined by OD_{280}

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) P. McCullagh *et al. Oncogene* 1999 **18** 7442; 2) H. Wu *et al. PLoS One* 2011 **6** e18919;ace 3) S. Qin *et al. J. Biol. Chem.* 2011 **286** 36944; 4) L. Liu *et al. J. Struct. Biol.* 2012 **180** 165; 5) Y. Mishima *et al. Blood* 2011 **118** 2443; 6) P. Filippakopoulos *et al. Cell* 2012 **149** 214



Coomassie blue stained SDS-PAGE (4-12% acrylamide) of 4 µg of RBC BRD1 (GST) MW markers (left) are, from top, 220, 160, 120, 100, 90, 80, 70, 60, **50**, 40, 30, 25, **20**, 15, kDa.



Differential Scanning Fluorimetry of RBC BRD1 (GST) Thermal denaturation of BRD1(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**) stabilizes the protein folding and shifts the Tm (inflection point) from 43°C to 45.5°C.

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