REACTION BIOLOGY

# PRODUCT DATASHEET

## BRD9 (GST) (Bromodomain-containing protein 9)

**CATALOG NO.:** RD-11-187 **LOT NO.:**

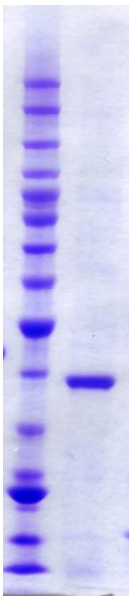
**DESCRIPTION:** Human recombinant BRD9 bromodomain (residues 135-248; Genbank Accession # NM_023924; MW = 40.1 kDa) expressed as an N-terminal GST-fusion protein in *E. coli*. BRD9 has been identified as a subunit of the BAF-subtype of SWI/SNF nucleosome remodeling complexes[1,2]. The SWI/SNF complexes are the most highly mutated chromatin regulator in human cancers (19.6% in 44 published sequencing studies), although BRD9 subunit is among the least mutated subunits[2]. However, increased copy numbers of the BRD9 gene occur with high frequency in early stage non-small cell lung cancers[3] and in invasive cervical cancers[4]. Triazolophthalazine inhibitors exhibiting low micromolar affinity and some partial selectivity for the BRD9 bromodomain (along with CREBBP, CECR2 and/or BRD4 bromodomains) have been synthesized[5] and crystal structures of the BRD9 bromodomain determined both with[5] and without[6] one such ligand. The BRD9 bromodomain was found to bind, *in vitro,* to various microarrayed histone H3, singly lysine-acetylated peptides[6].

**PURITY:** >90% by SDS-PAGE

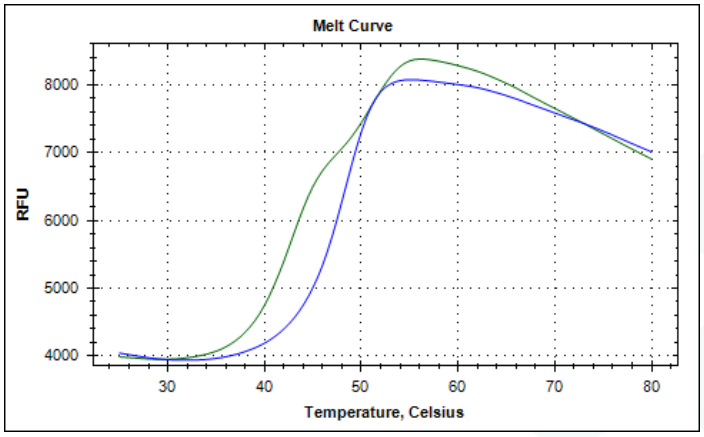
**SUPPLIED AS:** _ µg/µL in 50 mM HEPES/NaOH, pH 7.0, 500 mM NaCl, 1 mM TCEP, 10 % glycerol as determined by $OD_{280}$

**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) E. Middeljans *et al. PLoS One* 2012 **7** e33834; 2) C. Kadoch *et al. Nature Genet.* 2013 **45** 592; 3) J.U. Kang *et al. Cancer Genet. Cytogenet.* 2008 **182** 1; 4) L. Scotto *et al. Mol. Cancer* 2012 **7** 58; 5) O. Fedorov *et al. J. Med. Chem.* 2014 **57** 462; 6) P. Filippakopoulos *et al. Cell* 2012 **149** 214



**Coomassie blue-stained SDS-PAGE (4-12% acrylamide) of 3.6 µg of RBC BRD9 (GST ).** 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 BRD9 (GST) Thermal** denaturation of BRD9 (GST) is detected (CFX384™ Touch thermal cycler, 'FRET' channel; Bio-Rad) by increased binding and fluorescence of the dye SYPRO® Orange (Life Technologies). Addition of 25 µM bromosporine stabilizes the protein folding and shifts the Tm (inflection point) from 43°C to 48.5°C.



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