PRODUCT DATASHEET

SP110c-[PHD-BRD] (GST) (Speckled 110 kDa Nuclear Body Protein, var. c, PHD-Bromodomain)

CATALOG NO.: RD-11-294 **LOT NO.:**

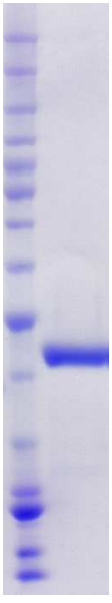
DESCRIPTION: Human recombinant SP110c tandem PHD bromodomain (residues 532-706; Genbank Accession # NM_080424; MW = 47.53 kDa) expressed as an N-terminal GST-fusion protein in *E. coli*. SP110 localizes to the PML-SP100 nuclear body and is highly expressed in peripheral blood leukocytes and the spleen[1]. Expression of SP110[2] and of other nuclear body proteins[3] is induced by interferon and SP110 may function as nuclear hormone receptor coactivator, acting to enhance retinoic acid-induced transcription[1]. Variants of SP110 are associated with veno-occlusive disease with immunodeficiency (VODI)[4] and variations in the course of hepatitis C infection[5]. There is evidence implicating SP110 as a mediator of the innate immune response to tuberculosis[6] (TB) plus viral and intracellular infections generally[7]. An association of particular single nucleotide polymorphisms (SNPs), in the SP110 gene, with variations in TB susceptibility have been reported for several populations[8-10]. However, these associations have been questioned[11] and the topic overall is the subject of ongoing investigation and debate[12.13].

PURITY: >95% by SDS-PAGE

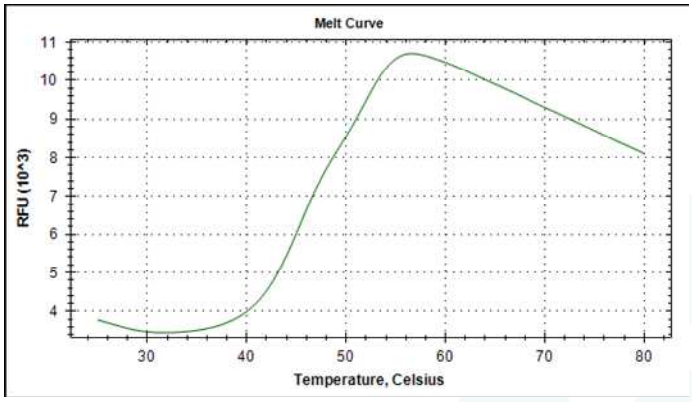
SUPPLIED AS: _ µg/µL in 50 mM Tris HCl, pH 7.5, 500 mM NaCl, 1 mM TCEP, 10 % glycerol as determined by OD_{280}.

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) D.B. Bloch *et al. Mol. Cell. Biol.* 2000 **20** 6138; 2) S. Kadereit *et al. J. Biol. Chem.* 1993 **268** 24432; 3) T. Regad & M.K. Chelbi-Alix *Oncogene* 2001 **20** 7274; 4) S.T. Cliffe *et al. J. Allergy Clin. Immunol.* 2012 **130** 735; 5) T. Saito *et al. Biochem. Biophys. Res. Commun.* 2004 **317** 335; 6) H. Pan *et al. Nature* 2005 **434** 767; 7) L. Cai *et al. Med. Chem.* 2011 **7** 121; 8) K. Tosh *et al. Proc. Natl. Acad. Sci. USA* 2006 **103** 10364; 9) L. Liang *et al. Infect. Geneti. Evol.* 2011 **11** 934; 10) G.J. Fox *et al. PLOS One* 2014 **9** e99496; 11) T. Thye *et al. J. Med. Genet.* 2006 **43** e32; 12) X. Lei *et al. Infect. Genet. Evol.* 2012 **12** 1473; 13) L. Cai *et al. Hum. Genet.* 2013 **132** 265



Coomassie blue-stained SDS-PAGE (4-12% acrylamide) of 4 µg of RBC SP110c-[PHD-BRD] (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 SP110c-[PHD-BRD] (GST). Thermal denaturation of SP110c-[PHD-BRD] (GST) is detected (CFX384™ Touch thermal cycler, 'FRET' channel; Bio-Rad) by increased binding and fluorescence of the dye SYPRO® Orange (Life Technologies). The apo form of SP110c-[PHD-BRD] (GST) displays a Tm of 45.5°C and is not stabilized in the presence of various known bromodomain ligands (JQ1, PFI1, CBP112, Bromosporine, SGC-CBP30, BET151, RVX-208, GSK2801 and PFI-3; not shown; all tested at 25 µM).

This product is not intended for therapeutic or diagnostic use in animals or in humans.

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