BRD4-1 (His) (Bromodomain containing protein 4, bromodomain 1)

Catalog No.: RD-11-140

Description: Human recombinant BRD4, bromodomain-1 (residues 44-170; Genbank Accession # NM_058243; MW = 17.8 kDa) expressed in E. coli with an N-terminal His-tag. BRD4, like other human members of the BET family of chromatin-binding proteins (BRD2, BRD3, BRDT), comprises two bromodomains (see reviews 1-3), protein modules that bind ε-N-acetyllysine residues 3,4. The ubiquitously expressed BRD4 functions as a transcriptional regulator2 with roles in cell cycle progression5,6 and has recently been shown to be an atypical kinase that can phosphorylate RNA Pol II7. Recent structural studies have shown that BRD4-18, like the bromodomain-1 of fellow BET family protein BRDT,9 can bind simultaneously to two acetyllysine residues with appropriate spacing and sequence context, for example a histone H4 peptide acetylated at lysines 5 and 8 (H4K5AcK8Ac)8. Chromosomal translocations that produce BRD4-NUT fusion proteins are implicated in causation of a rare and aggressive cancer, NUT midline carcinoma10. Selective inhibitors of BRD4/BET family bromodomains11-13 are showing promise as possible therapeutic agents for cancer11,14-16 and inflammation12.

Purity: >95% by SDS-PAGE

Supplied as: _ µg/µL in 20 mM Tris-HCl, pH 7.5, 150 mM NaCl, 10% glycerol (w/v), 1 mM TCEP as determined by OD

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.


Differential Scanning Fluorimetry of RBC BRD4-1 (His) in the Absence or Presence of Several Inhibitors. Thermal denaturation of BRD4-1 (His) is detected (CFX384™ Touch thermal cycler, FRET channel; Bio-Rad) by increased binding and fluorescence of the dye SYPRO® Orange (Life Technologies). Addition of a BET bromodomain inhibitor/ligand—BET151, (+)-JQ1, Bromosporine or PFI-1 (all 25 µM)—stabilizes the protein folding and shifts the Tm (inflection point) from 47°C (DMSO control) to 59°C, 58.5°C, 56.5°C or 53°C respectively.

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

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