

Recombinant BRD3 (BD1+BD2) protein

Catalog No: 81436, 81536

Expressed In: *E. coli*

Quantity: 50, 1000 µg

Concentration: 2 µg/µl

Source: Human

Buffer Contents: Recombinant BRD3 (BD1+BD2), GST-Tag protein is supplied in 25 mM Tris-HCl pH 8.0, 300 mM NaCl, 10% glycerol.

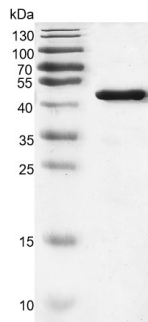
Background: Bromodomain-containing protein 3 (BRD3), also known as **RING3L**, belongs to the BET subclass of proteins, which are characterized by two N-terminal bromodomains and one ET (Extra Terminal) domain. BRDs associate with chromatin through their bromodomains that recognize acetylated histone lysine residues. Bromodomains function as 'readers' of these epigenetic histone marks and regulate chromatin structure and gene expression by linking associated proteins to the acetylated nucleosomal targets. The ET domain functions as a protein binding motif and exerts atypical serine-kinase activity. The BET family consists of at least four members in mouse and human, BRD2 (also referred to as FSRG1, RING3), BRD3 (FSRG2, ORFX), BRD4 (FSRG4, MCAP/HUNK1), and BRDT (FSRG3, BRD6). BRD3 binds and regulates GATA1 in an acetylation-dependent manner. GATA1 is a key regulator of gene expression for erythroid and megakaryocyte-specific genes, and mutations in GATA1 have been associated with congenital anemias and megakaryoblastic leukemias. Interestingly, tight interaction of BRD3 with GATA1 requires multiple acetylation modifications, and structural data showed that two adjacent acetylation sites in GATA1 interact with a single bromodomain. BRD3 protein expression is induced in activated lymphocytes. Additionally, it is highly expressed in undifferentiated ES cells and expression is observed to drop upon endothelial differentiation. Altered expression levels of BRD3 have been observed in certain cancers, such as nasopharyngeal carcinomas and bladder cancer. BRD3 also interacts with LANA-1, the Kaposi's sarcoma-associated herpesvirus (KSHV) latency-associated nuclear antigen 1, which is required for the replication of episomal viral genomes. It shows binding specificity for acetylated H3K18, H4K12, H4K20 and H4K12/K16/K20.

Protein Details: Recombinant BRD3 (BD1+BD2), His-Tag protein that includes amino acids 29-417 of human BRD3 protein (accession number NP_031397.1) was expressed in *E. coli* and contains an N-terminal His tag with a molecular weight of 46.51 kDa.

Application Notes: This product was manufactured as described in Protein Details. Where possible, Active Motif has developed functional or activity assays for recombinant proteins. Additional characterization such as enzyme kinetic activity assays, inhibitor screening or other biological activity assays may not have been performed for every product. All available data for a given product is shown on the lot-specific Technical Data Sheet.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.

BRD3 (BD1+BD2)



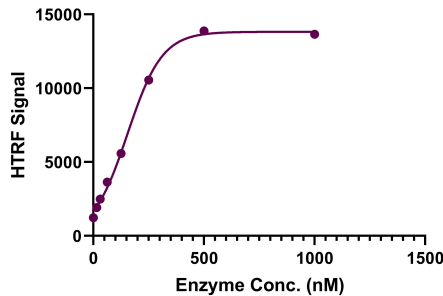
Recombinant BRD3 (BD1+BD2) protein

12.5% SDS-PAGE Coomassie staining

MW: 46.51 kDa

Purity: $\geq 90\%$

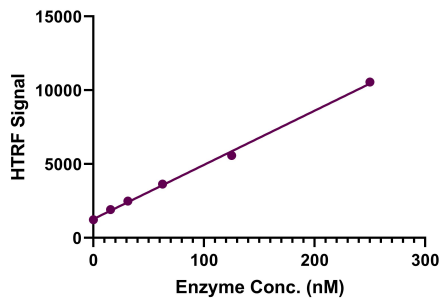
BRD3 (BD1+BD2) Titration



HTRF assay for BRD3 (BD1+BD2), Anti-His activity

3 μ M histone peptide H4K5/8/12/16(ac4) was incubated with BRD3 (BD1 +BD2) in reaction buffer including 50 mM HEPES-NaOH pH 7.4, 0.1% BSA for 1 hour at room temperature. Anti-His antibody was used to detect reaction products. All the operations and reactions were performed at room temperature. HTRF assay was used for detection.

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