Recombinant BRD3 (24-144) protein

Catalog No: 31379, 31779
Lot No: 32717003
Expressed In: *E. coli*

Quantity: 100, 1000 µg
Concentration: 1.8 µg/µl
Source: Human

Buffer Contents: Recombinant BRD3 (24-144) protein was expressed in *E. coli* cells and is supplied in 25 mM Tris-HCl pH 8, 300 mM NaCl, 10% glycerol.

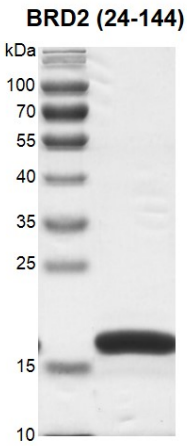
Background: Bromodomain-containing protein 3 (BRD3), also known as **RING3L**, belongs to the BET subclass of proteins, which are characterized by two N-terminal bromodomains and one ET (Extra Terminal) domain. BRDs associate with chromatin through their bromodomains that recognize acetylated histone 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.

Protein Details: The peptide corresponding to amino acids 24 - 144 that contains the bromodomain sequences of BRD3 (accession number NM_007371.3) was expressed in *E. coli* and contains an N-terminal His-Tag and C-terminal FLAG-Tag with an observed molecular weight of 20.5 kDa. It shows binding specificity for acetylated H3K18, H4K12, H4K20 and H4K12/K16/K20. The recombinant protein is >90% pure by SDS-PAGE.

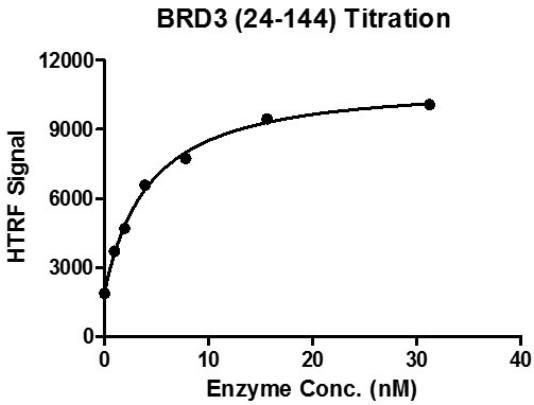
Application Notes: Recombinant BRD3 (24-144) is suitable for use in binding assays, inhibitor screening, and selectivity profiling.

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 guaranteed for 6 months from date of receipt.

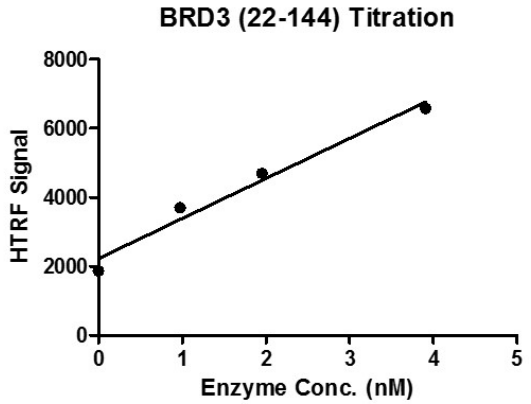
This product is for research use only and is not for use in diagnostic procedures.



Recombinant BRD3 (24-144) protein gel.
BRD3 (24-144) protein was run on a 12%SDS-PAGE gel and stained with Coomassie Blue.
MW: 20.5 kDa
Purity: > 90%



HTRF assay for BRD3 (24-144) activity
1 µM H4K5/8/12/16(4ac) peptide was incubated with different concentrations of BRD3 (24-144) protein in 10 µl reaction system containing 50 mM HEPES-NaOH pH7.5, 0.1% BSA for 1 hour, then 10 µl FLAG antibody and SA-XL665 mixture (each 1:100 dilution in reaction buffer) was added to each reaction system and incubated for 30 min. All the operations and reactions were performed at room temperature.



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