

Recombinant BRD3 (306-416) protein, GST-Tag

Catalog No: 81152, 81852

Lot No: 12918001

Expressed In: *E. coli*

Quantity: 100, 1000 µg

Concentration: 1.8 µg/µl

Source: Human

Buffer Contents: Recombinant BRD3 (306-416), GST-Tag protein is supplied in 25 mM Tris-HCl pH 8.0, 300 mM NaCl, 10% glycerol.

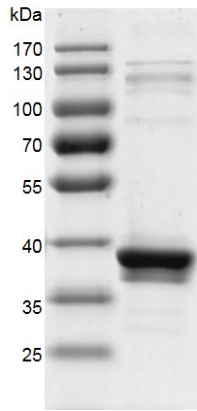
Background: Bromodomain-containing protein 3 (BRD3), also known as RING3L, belongs to the BET subclass of proteins characterized by two N-terminal bromodomains and one ET (Extra Terminal) domain. BRDs associate with chromatin through their bromodomains that recognize acetylated histone lysine residues. 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 H4K8 and H4K12/K16/ K20, as well as acetylated GATA1.

Protein Details: Recombinant BRD3 (306-416), GST-Tag protein that includes amino acids 306-416 (the second Bromodomain) of human BRD3 protein (accession number NP_031397.1) was expressed in *E. coli* and contains an N-terminal GST tag with a molecular weight of 39.4 kDa.

Application Notes: This protein 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 for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.

BRD3 (306-416), GST-tag



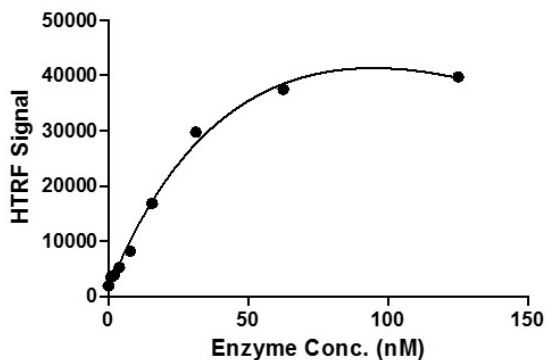
Recombinant BRD3 (306-416), GST-Tag protein gel

10% SDS-PAGE Coomassie staining

MW: 39.4 kDa

Purity: >85%

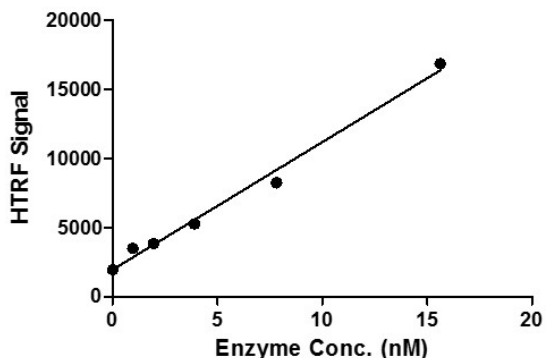
GST-BRD3 (306-416) Titration



HTRF assay for BRD3 (206-416), GST-Tag activity

3 μ M H4K5/8/12/16(ac4) peptide was incubated with different concentrations of BRD3 (306-416), GST-tag protein in a 10 μ l binding system containing 50 mM HEPES-NaOH pH 7.4, 0.1% BSA for 1 hour, then 10 μ l GST antibody and SA-XL665 mixture (each 1:100 dilution in Binding Buffer) were added to each reaction system and incubated for 30 min. All the operations and reactions were performed at room temperature. HTRF assay was used for detection.

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