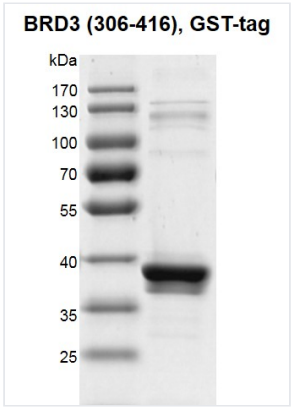
BRD3 Recombinant Protein

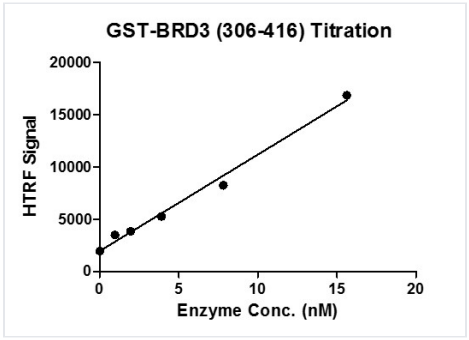
PRODUCT OVERVIEW

Product Name	BRD3, Recombinant Protein
Full Product Name	Recombinant BRD3 (306-416) protein, GST-Tag
Product Gene Name	BRD3 recombinant protein
Product Synonym Names	RING3-Like; Bromodomain Containing 3; ORFX
Host	E Coli
Form/Format	Recombinant BRD3 (306-416), GST-Tag protein is supplied in 25mM Tris-HCl pH8.0, 300mM NaCl, 10% glycerol.
Preparation and Storage	Recombinant proteins in solution are temperature sensitive and must be stored at -80 degree C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. Shipping Temp: Dry Ice
Molecular Weight	79,542 Da
Chromosome Location	Chromosome: 9; NC_000009.11 (136895427..136933141, complement). Location: 9q34
OMIM	601541
3D Structure	ModBase 3D Structure for Q15059
Protein Species	Human
Tag	GST-Tag
Notes	This protein is suitable for use in binding assays, inhibitor screening, and selectivity profiling.
Dry Ice Shipment	Extra charge fee may add to your shipping cost as dry ice is required to ship this product.
Product Categories/Family for BRD3 recombinant protein	Recombinant Proteins; Bromodomain
Related Product Information for BRD3 recombinant protein	Short Description: Recombinant BRD3 (306-416), GST-Tag protein includes amino acids 306-416 (the second Bromodomain) of human BRD3 protein (accession number NP_031397.1); it was expressed in E Coli and contains an N-terminal GST-Tag with a molecular weight of 39.4 kDa. This protein is suitable for use in binding assays, inhibitor screening, and selectivity profiling. 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.

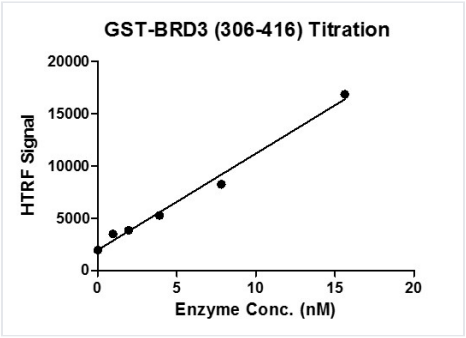
Other Notes	Small volumes of BRD3 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for BRD3 purchase	MBS389209 is a recombinant protein targeting BRD3. Also known as Recombinant BRD3 (306-416) protein, GST-Tag. Host: E Coli.



SDS-Page of BRD3 recombinant protein
Recombinant BRD3 (306-416), GST-Tag protein gel 10% SDS-PAGE Coomassie staining MW: 39.4 kDa Purity: >85%



Testing Data of BRD3 recombinant protein
HTRF assay for BRD3 (206-416), GST-Tag activity 3 uM H4K5/8/12/16(ac4) peptide was incubated with different concentrations of BRD3 (306-416), GST-tag protein in a 10 ul binding system containing 50 mM HEPES-NaOH pH 7.4, 0.1% BSA for 1 hour, then 10 ul 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.



Testing Data of BRD3 recombinant protein
HTRF assay for BRD3 (206-416), GST-Tag activity 3 uM H4K5/8/12/16(ac4) peptide was incubated with different concentrations of BRD3 (306-416), GST-tag protein in a 10 ul binding system containing 50 mM HEPES-NaOH pH 7.4, 0.1% BSA for 1 hour, then 10 ul 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.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for BRD3. It may not necessarily be applicable to this product.

NCBI GI #	11067749
NCBI GeneID	8019
NCBI Accession #	NP_031397.1
UniProt Primary Accession #	Q15059
UniProt Secondary Accession #	Q4G5Y3; Q5T1R7; Q8N5M3; Q92645; B1APD9
UniProt Related Accession #	Q15059
GenBank Nucleotide #	NM_007371.3
NCBI Official Full Name	bromodomain-containing protein 3
NCBI Official Synonym Full Names	bromodomain containing 3

NCBI Official Symbol	BRD3
NCBI Official Synonym Symbols	ORFX; RING3L
UniProt Protein Name	Bromodomain-containing protein 3
UniProt Synonym Protein Names	RING3-like protein
Protein Family	Bromodomain-containing protein
UniProt Gene Name	BRD3
UniProt Synonym Gene Names	KIAA0043; RING3L
UniProt Entry Name	BRD3_HUMAN
NCBI Protein Information	bromodomain-containing protein 3; RING3-like protein; bromodomain-containing 3
NCBI Summary for BRD3	This gene was identified based on its homology to the gene encoding the RING3 protein, a serine/threonine kinase. The gene localizes to 9q34, a region which contains several major histocompatibility complex (MHC) genes. The function of the encoded protein is not known. [provided by RefSeq, Jul 2008]
UniProt Comments for BRD3	BRD3: Binds hyperacetylated chromatin and plays a role in the regulation of transcription, probably by chromatin remodeling and interaction with transcription factors. Regulates transcription by promoting the binding of the transcription factor GATA1 to its targets. Regulates transcription of the CCND1 gene. A chromosomal aberration involving BRD3 is found in a rare, aggressive, and lethal carcinoma arising in midline organs of young people. Translocation t(15;9)(q14;q34) with NUT which produces a BRD3-NUT fusion protein. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Protein kinase, Ser/Thr (non-receptor); Kinase, protein; Protein kinase, atypical; ATYPICAL group; BRD family Chromosomal Location of Human Ortholog: 9q34 Cellular Component: nucleus Molecular Function: protein binding; chromatin binding Biological Process: regulation of transcription from RNA polymerase II promoter; transcription, DNA-dependent; chromatin modification
Research Articles on BRD3	**1.** The BRDT gene was not expressed in testicular tissue from patients with Sertoli cells only, whereas the other three genes of the BET family retained expression in all the sperm pathologies.
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