

## Recombinant BRD4 protein

**Catalog No:** 82033, 82633

**Expressed In:** Baculovirus

**Quantity:** 20, 1000 µg

**Source:** Human

**Buffer Contents:** Recombinant BRD4 protein is supplied in 25 mM HEPES pH 7.5, 300 mM NaCl, 20% glycerol, 0.04% Triton X-100, 0.5 mM TCEP.

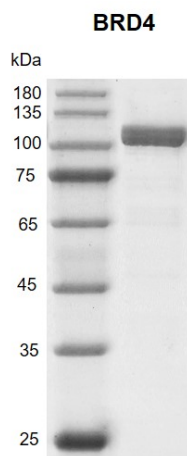
**Background:** Bromodomain-containing protein 4 (BRD4) belongs to the BET subclass of proteins, which are characterized by two N-terminal bromodomains and one ET (Extra Terminal) domain. BRDs associate with chromatin through their bromodomains that recognize acetylated histone lysine residues. Bromodomains 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). BRD proteins are related to the female sterile homeotic protein gene in *Drosophila*, a gene required maternally for proper expression of other homeotic genes, such as *Ubx*, which is involved in pattern formation. **BRD4** has been identified recently as a therapeutic target in many cancers, including acute myeloid leukemia, multiple myeloma, Burkitt's lymphoma, NUT midline carcinoma, colon cancer, and breast cancer. **BRD4** regulates the transcription of oncogenes, HIV, and human papilloma virus (HPV). It has been shown to bind and phosphorylate RNA pol II, which implicates its involvement in the regulation of eukaryotic transcription. It shows binding specificity for acetylated H3K9, H3K9/K14, H4K5, H4K8, H4K12, H4K5/K8, H4K5/K12, H4K8/K12, H4K12/K16, H4K12/K16/K20 and H4K5/K8/K12/K16, as well as acetylated RelA-K310.

**Protein Details:** Recombinant BRD4 protein that includes full length of human BRD4 protein (accession number NP\_055114.1) was expressed in Sf9 cells and contains an N-terminal FLAG tag with a molecular weight of 81.7 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 this product is shown.

**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.

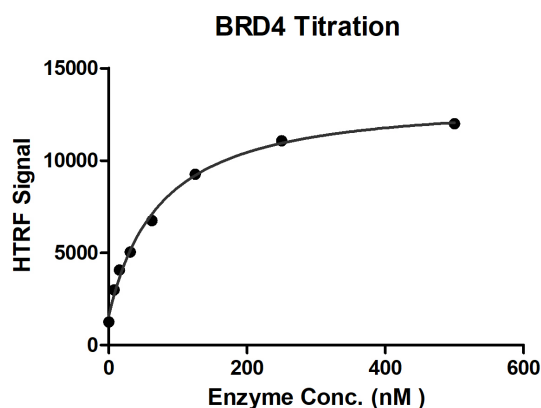


#### Recombinant BRD4 protein gel

10% SDS-PAGE Coomassie staining

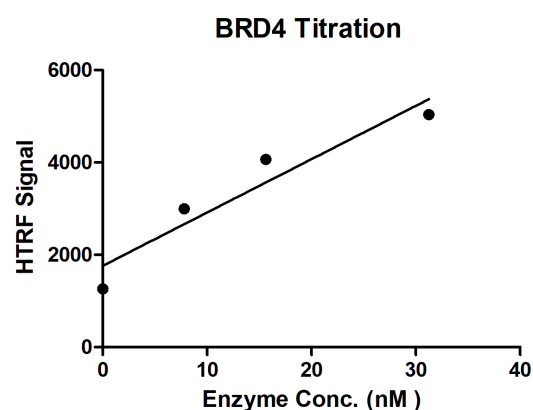
MW: 81.7 kDa

Purity: >95%



#### HTRF Assay for Recombinant BRD4 activity

3  $\mu$ M histone peptide H4K5/8/12/16(ac4) was incubated with BRD4 in reaction buffer including 50 mM HEPES-NaOH pH 7.0, 0.1% BSA for 1 hour at room temperature. Anti-FLAG antibody was used to detect reaction products. All the operations and reactions were performed at room temperature. HTRF was used to detect the products.



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