

## Recombinant BRD7 (129-236) protein, GST-tag

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**Catalog No:** 31480, 31780

**Expressed In:** *E. coli*

**Quantity:** 100 µg

**Concentration:** 1.4 µg/µl

**Source:** Human

**Buffer Contents:** Recombinant BRD7 (129-236), GST-tag is supplied at a concentration of 1.4 µg/µl in 25 mM Tris-HCl pH 7.4, 150 mM NaCl and 5% glycerol.

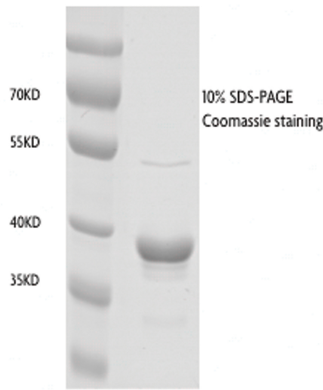
**Background: Bromodomain-containing protein 7 (BRD7)** belongs to the BET subclass of proteins, which are characterized by two N-terminal bromodomains and one ET (Extra Terminal) domain. BRDs associate with chromatin through their bromodomains that recognize acetylated histone lysine residues. Bromodomains 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). BRD7 interacts with several proteins, including DVL1, PTPN13, IRF2 and HNRPUL1 and functions in the regulation of transcriptional activation and chromatin remodeling. Specifically, BRD7 has been shown to bind dishevelled-1 (DVL1) and enhance Wnt signaling via inhibition of GSK3β. BRD7 also associates with histones and E1B-AP5. In particular, it binds acetylated histone peptides, most notably H3 peptide acetylated at Lys14. BRD7 also inhibits G1-S progression by transcriptional regulation of molecules in the Ras and Rb pathways. BRD7 also suppresses tumorigenicity through binding and acetylation of p53 that results in efficient recruitment of p53 to target promoters and subsequent oncogene-induced senescence.

**Protein Details:** The peptide corresponding to amino acids 129 - 236 that contains the bromodomain sequences of BRD7 (accession number NM\_013263.4) was expressed in *E. coli* and contains an N-terminal GST tag with a molecular weight of 39 kDa. It shows binding specificity for acetylated H3K9, H3K14, H4K8, H4K12 and H4K16. The recombinant protein is >90% pure by SDS-PAGE.

**Application Notes:** Recombinant BRD7 (129-236), GST-tag 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.

### BRD7 (129-236)



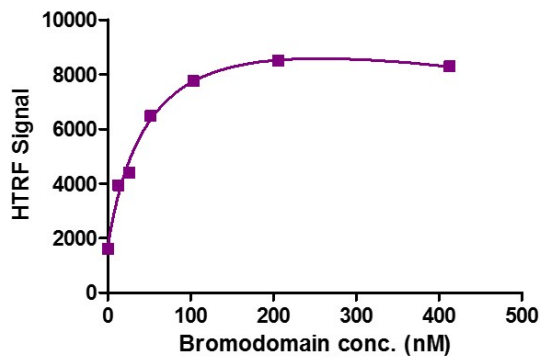
### Recombinant BRD7 (129-236), GST-tag protein gel.

BRD7 (129-236) protein was run on an SDS-PAGE gel and stained with Coomassie Blue.

MW: 39 kDa

Purity: > 90%

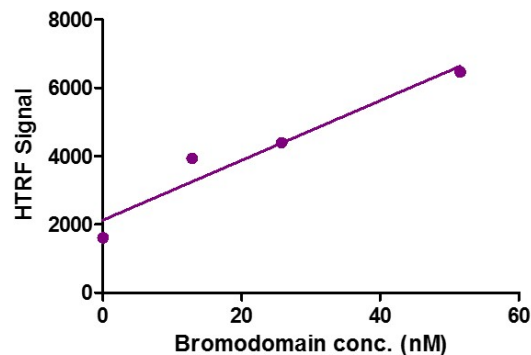
### GST-BRD7 (129-236) Titration



### HTRF Assay for Recombinant BRD7 (129-236), GST-tag protein activity.

3.3  $\mu$ M histone peptide H4K5/8/12/16(4Ac) was incubated with BRD7 (129-236) protein in reaction buffer including 50 mM HEPES-NaOH pH 7.0, 0.1% BSA for 1 hour at room temperature. Anti-GST antibody was used to detect reaction products.

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