

Recombinant BRD2 (344-455) protein

Catalog No: 31378, 31778

Expressed In: *E. coli*

Quantity: 100 µg

Concentration: 2 µg/µl

Source: Human

Buffer Contents: Recombinant BRD2 (344-455) protein was expressed in *E. coli* cells at a concentration of 2 µg/µl in 25 mM Tris-HCl pH 8.0, 150 mM NaCl, 20% glycerol, 1 mM TCEP.

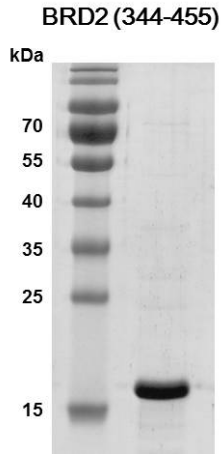
Background: BRD2 (Bromodomain-containing protein 2) belongs to the BET subclass of proteins, which are characterized by two N-terminal bromodomains and one ET (Extra Terminal) domain. BRDs associate with chromatin through their bromodomains that recognize acetylated histone lysine residues. Bromodomains 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. BRD2 causes elevated protein kinase activity in leukemias. Transgenic mice overexpressing BRD2 in the lymphoid system develop diffuse large-cell lymphoma. BRD2 has been shown to interact with E2F1 and with histone H4 acetylated at Lys12 via its two bromodomains. BRD2 may play a role in spermatogenesis or folliculogenesis. Genetic evidence links the BRD2 gene to both juvenile myoclonic epilepsy and photoparoxysmal responses.

Protein Details: The peptide corresponding to amino acids 344 - 455 that contains the bromodomain sequences of BRD2 (accession number NM_005104.3) was expressed in *E. coli* and contains an N-terminal His tag and C-terminal FLAG tag with an observed molecular weight of 19.4 kDa. It shows binding specificity for acetylated H4K5/K8, H4K12, H4K8/K12, H4K12/K16, H4K12/K16/K20 and H4K5/K8/K12/K16. The recombinant protein is ≥ 90% pure by SDS-PAGE.

Application Notes: Recombinant BRD2 (344-455) is suitable for use in binding assays, inhibitor screening, and selectivity profiling.

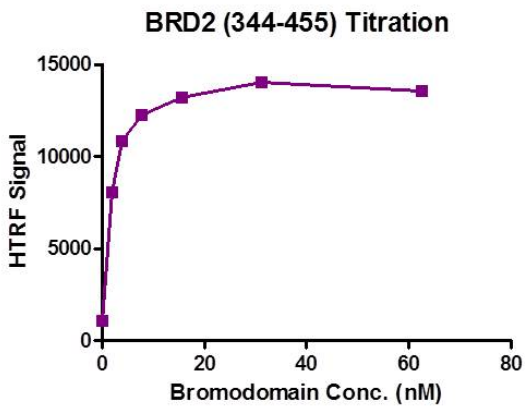
Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt.

This product is for research use only and is not for use in diagnostics.



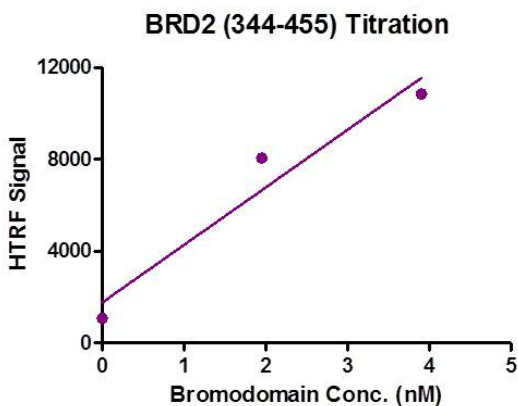
Recombinant BRD2 (344-455) protein gel.

BRD2 (344-455) protein was run on a 12% SDS-PAGE gel and stained with Coomassie Blue. MW: 19.4 kDa



HTRF Assay for Recombinant BRD2 (344-455) activity.

3 μ M histone peptide H4K5/8/12/16(4Ac) was incubated with BRD2 (344-455) protein in reaction buffer including 50mM HEPES-NaOH pH 7.0, 0.1% BSA for 1 hour at room temperature. Anti-Flag antibody was used to detect reaction products.



HTRF Assay for Recombinant BRD2 (344-455) activity.

3 μ M histone peptide H4K5/8/12/16(4Ac) was incubated with BRD2 (344-455) protein in reaction buffer including 50mM HEPES-NaOH pH 7.0, 0.1% BSA for 1 hour at room temperature. Anti-Flag antibody was used to detect reaction products.