

BRD2 Antibody
Purified Rabbit Polyclonal Antibody
Catalog # ABV11623**Specification**

BRD2 Antibody - Product Information

Application	WB
Primary Accession	Q6MGA9
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	88051

BRD2 Antibody - Additional Information**Gene ID** 294276**Other Names**

RING3, RNF3; Bromodomain containing 4

Target/Specificity

BRD2

Formulation

100 µg (0.5 mg/ml) of antibody in PBS, 0.01 % BSA, 0.01 % thimerosal, and 50 % glycerol, pH 7.2

Handling

The antibody solution should be gently mixed before use.

Background Descriptions**Precautions**

BRD2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

BRD2 Antibody - Protein Information**Name** Brd2**Synonyms** Ring3**Function**

Chromatin reader protein that specifically recognizes and binds histone H4 acetylated at 'Lys-5' and 'Lys-12' (H4K5ac and H4K12ac, respectively), thereby controlling gene expression and remodeling chromatin structures. Recruits transcription factors and coactivators to target gene sites, and activates RNA polymerase II machinery for transcriptional elongation. Plays a key role in genome compartmentalization via its association with CTCF and cohesin: recruited to chromatin by

CTCF and promotes formation of topologically associating domains (TADs) via its ability to bind acetylated histones, contributing to CTCF boundary formation and enhancer insulation. Also recognizes and binds acetylated non-histone proteins, such as STAT3. Involved in inflammatory response by regulating differentiation of naive CD4(+) T-cells into T-helper Th17: recognizes and binds STAT3 acetylated at 'Lys-87', promoting STAT3 recruitment to chromatin. In addition to acetylated lysines, also recognizes and binds lysine residues on histones that are both methylated and acetylated on the same side chain to form N6-acetyl-N6-methyllysine (Kacme), an epigenetic mark of active chromatin associated with increased transcriptional initiation. Specifically binds histone H4 acetyl- methylated at 'Lys-5' and 'Lys-12' (H4K5acme and H4K12acme, respectively).

Cellular Location

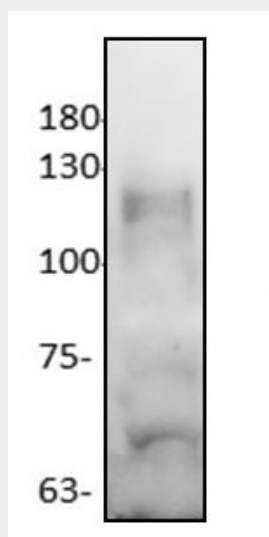
Nucleus {ECO:0000250|UniProtKB:P25440}. Chromosome {ECO:0000250|UniProtKB:P25440}.
Note=Detected on chromatin and nucleosomes. {ECO:0000250|UniProtKB:P25440}

BRD2 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

BRD2 Antibody - Images



Western blot of 3T3 lysate with BRD2 Antibody.

BRD2 Antibody - Background

The acetylation of histone lysine residues plays a crucial role in the epigenetic regulation of gene transcription. A bromodomain is a protein domain that recognizes acetylated lysine residues such as those on the N-terminal tails of histones. This recognition is often a prerequisite for protein-histone association and chromatin remodeling. These domains function in the linking of

protein complexes to acetylated nucleosomes, thereby controlling chromatin structure and gene expression. Thus, bromodomains serve as “readers” of histone acetylation marks regulating the transcription of target promoters. The BET family of proteins, defined by tandem Bromodomains and an Extra Terminal domain, include BRD2, BRD3, BRD4, and BRDT. The BET proteins play a key role in many cellular processes, including inflammatory gene expression, mitosis, and viral/host interactions. The isolated individual or tandem bromodomains of BRD2 and BRD4 have been shown to bind acetylated histone tails, serving to couple histone acetylation marks to the transcriptional regulation of target promoters. Small molecule inhibitors of these interactions hold promise as useful therapeutics for human disease.