

# BRD3-BD2 Antibody

Rabbit Anti Human Polyclonal Antibody

Catalog # ABV11710

## Product Information

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|-------------------|------------------------|
| Application       | WB                     |
| Primary Accession | <a href="#">Q15059</a> |
| Reactivity        | Human                  |
| Host              | Rabbit                 |
| Clonality         | Polyclonal             |
| Isotype           | Rabbit IgG             |
| Calculated MW     | 79542                  |

## Additional Information

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|--------------------------|---------------------------------------------------------------------------------------------------------------|
| Gene ID                  | 8019                                                                                                          |
| Positive Control         | Western Blot: Recombinant protein                                                                             |
| Application & Usage      | Western blot: 1-4 $\mu$ g/ml.                                                                                 |
| Other Names              | KIAA0043, RING3L                                                                                              |
| Target/Specificity       | BRD3-BD2                                                                                                      |
| Antibody Form            | Liquid                                                                                                        |
| Appearance               | Colorless liquid                                                                                              |
| Formulation              | 30 $\mu$ g (0.5 mg/ml) of antibody in PBS pH 7.2 containing 0.01 % BSA, 0.01 % thimerosal, and 50 % glycerol. |
| Handling                 | The antibody solution should be gently mixed before use.                                                      |
| Reconstitution & Storage | -20 °C                                                                                                        |
| Background Descriptions  |                                                                                                               |
| Precautions              | BRD3-BD2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.           |

## Protein Information

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| Name     | BRD3 {ECO:0000303   PubMed:18406326, ECO:0000312   HGNC:HGNC:1104}                                                                                                                                                                                                                                                                              |
| Function | Chromatin reader that recognizes and binds acetylated histones, thereby controlling gene expression and remodeling chromatin structures (PubMed: <a href="#">18406326</a> , PubMed: <a href="#">22464331</a> , PubMed: <a href="#">27105114</a> , PubMed: <a href="#">32895492</a> ). Recruits transcription factors and coactivators to target |

gene sites, and activates RNA polymerase II machinery for transcriptional elongation (PubMed:[29567837](#), PubMed:[32895492](#)). In vitro, binds acetylated lysine residues on the N-terminus of histone H2A, H2B, H3 and H4 (PubMed:[18406326](#)). Involved in endoderm differentiation via its association with long non-coding RNA (lncRNA) DIGIT: BRD3 undergoes liquid-liquid phase separation upon binding to lncRNA DIGIT, promoting binding to histone H3 acetylated at 'Lys-18' (H3K18ac) to induce endoderm gene expression (PubMed:[32895492](#)). Also binds non-histones acetylated proteins, such as GATA1 and GATA2: regulates transcription by promoting the binding of the transcription factor GATA1 to its targets (By similarity).

**Cellular Location**

Nucleus. Chromosome. Note=Detected on chromatin

**Tissue Location**

Ubiquitous..

## Background

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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. BRD3 binds hyper-acetylated chromatin and plays a role in the regulation of transcription, probably by chromatin remodeling and interaction with transcription factors. It regulates transcription by promoting the binding of the transcription factor GATA1 to its targets and transcription of the CCND1 gene. A chromosomal aberration involving BRD3 was found in a rare, aggressive, and lethal carcinoma arising in midline organs of young people.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.