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BRD4 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV11180

Specification

BRD4 Antibody - Product Information

Application	**WB**
Primary Accession	O60885
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**152219**

BRD4 Antibody - Additional Information

Gene ID 23476

Positive Control	**Western blot: Rat kidney lysate**
Application & Usage	**Western blot: 1:200**

Other Names
Bromodomain containing 4, isoform CRA_b, HUNK1

Target/Specificity
BRD4

Antibody Form
Liquid

Appearance
Colorless liquid

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.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
BRD4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

BRD4 Antibody - Protein Information

Name BRD4

Synonyms HUNK1

Function
Chromatin reader protein that recognizes and binds acetylated histones and plays a key role in transmission of epigenetic memory across cell divisions and transcription regulation (PubMed:23086925, PubMed:23317504, PubMed:20871596, PubMed:29176719). Remains associated with acetylated chromatin throughout the entire cell cycle and provides epigenetic memory for postmitotic G1 gene transcription by preserving acetylated chromatin status and maintaining high-order chromatin structure (PubMed:23589332, PubMed:23317504, PubMed:22334664). During interphase, plays a key role in regulating the transcription of signal- inducible genes by associating with the P-TEFb complex and recruiting it to promoters (PubMed:23589332, PubMed:19596240, PubMed:16109377, PubMed:16109376, PubMed:24360279). Also recruits P-TEFb complex to distal enhancers, so called anti-pause enhancers in collaboration with JMJD6 (PubMed:23589332, PubMed:19596240, PubMed:16109377, PubMed:16109376, PubMed:24360279). BRD4 and JMJD6 are required to form the transcriptionally active P-TEFb complex by displacing negative regulators such as HEXIM1 and 7SKsnRNA complex from P-TEFb, thereby transforming it into an active form that can then phosphorylate the C- terminal domain (CTD) of RNA polymerase II (PubMed:23589332, PubMed:19596240, PubMed:16109377, PubMed:16109376, PubMed:24360279). Regulates differentiation of naive CD4(+) T-cells into T-helper Th17 by promoting recruitment of P-TEFb to promoters (By similarity). Promotes phosphorylation of 'Ser-2' of the C-terminal domain (CTD) of RNA polymerase II (PubMed:23086925). According to a report, directly acts as an atypical protein kinase and mediates phosphorylation of 'Ser-2' of the C-terminal domain (CTD) of RNA polymerase II; these data however need additional evidences in vivo (PubMed:22509028). In addition to acetylated histones, also recognizes and binds acetylated RELA, leading to further recruitment of the P-TEFb complex and subsequent activation of NF-kappa-B (PubMed:19103749). Also acts as a regulator of p53/TP53- mediated transcription: following phosphorylation by CK2, recruited to p53/TP53 specific target promoters (PubMed:23317504).

Cellular Location
Nucleus. Chromosome. Note=Associates with acetylated chromatin (PubMed:21890894, PubMed:16109376). Released from chromatin upon deacetylation of histones that can be triggered by different signals such as activation of the JNK pathway or nocodazole treatment (PubMed:21890894, PubMed:16109376). Preferentially localizes to mitotic chromosomes, while it

does not localize to meiotic chromosomes (PubMed:21890894, PubMed:16109376).

Tissue Location
Ubiquitously expressed.

BRD4 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 Cytomety
- Cell Culture

BRD4 Antibody - Images

BRD4 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.