

# Brd4 Rabbit mAb

Catalog # AP78960

## Product Information

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<b>Application</b>	WB, IHC-P, FC, IP
<b>Primary Accession</b>	<a href="#">O60885</a>
<b>Reactivity</b>	Rat, Human, Mouse
<b>Host</b>	Rabbit
<b>Clonality</b>	Monoclonal Antibody
<b>Isotype</b>	IgG
<b>Conjugate</b>	Unconjugated
<b>Purification</b>	Affinity Chromatography
<b>Calculated MW</b>	152219

## Additional Information

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<b>Gene ID</b>	23476
<b>Other Names</b>	BRD4
<b>Dilution</b>	WB~~1:1000 IHC-P~~N/A FC~~1:10~50 IP~~N/A
<b>Format</b>	1xPBS(pH 7.4), 150mM NaCl, 50% Glycerol, 0.02% Sodium azide and 0.05% BSA
<b>Storage</b>	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

## Protein Information

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<b>Name</b>	BRD4
<b>Synonyms</b>	HUNK1
<b>Function</b>	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: <a href="#">20871596</a> , PubMed: <a href="#">23086925</a> , PubMed: <a href="#">23317504</a> , PubMed: <a href="#">29176719</a> , PubMed: <a href="#">29379197</a> ). 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: <a href="#">22334664</a> , PubMed: <a href="#">23317504</a> , PubMed: <a href="#">23589332</a> ). 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: <a href="#">16109376</a> , PubMed: <a href="#">16109377</a> , PubMed: <a href="#">19596240</a> , PubMed: <a href="#">23589332</a> , PubMed: <a href="#">24360279</a> ). Also recruits P-TEFb complex to distal enhancers, so called anti-pause enhancers in collaboration with JMJD6

(PubMed:[16109376](#), PubMed:[16109377](#), PubMed:[19596240](#), PubMed:[23589332](#), 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:[16109376](#), PubMed:[16109377](#), PubMed:[19596240](#), PubMed:[23589332](#), 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:[16109376](#), PubMed:[21890894](#)). 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:[16109376](#), PubMed:[21890894](#)). Preferentially localizes to mitotic chromosomes, while it does not localize to meiotic chromosomes (PubMed:[16109376](#), PubMed:[21890894](#)).

### Tissue Location

Ubiquitously expressed.

## Background

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Plays a role in a process governing chromosomal dynamics during mitosis.

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