

# BRD4 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP8051b

## Product Information

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Application	IHC-P, E
Primary Accession	<a href="#">O60885</a>
Other Accession	<a href="#">Q9ESU6</a>
Reactivity	Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB3422
Calculated MW	152219
Antigen Region	1313-1342

## Additional Information

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Gene ID	23476
Other Names	Bromodomain-containing protein 4, Protein HUNK1, BRD4, HUNK1
Target/Specificity	This BRD4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1313~1342 amino acids from the C-terminal region of human BRD4.
Dilution	IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	BRD4 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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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:[20871596](#), PubMed:[23086925](#), PubMed:[23317504](#), PubMed:[29176719](#), PubMed:[29379197](#)). 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:[22334664](#), PubMed:[23317504](#), PubMed:[23589332](#)). 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:[16109376](#), PubMed:[16109377](#), PubMed:[19596240](#), PubMed:[23589332](#), PubMed:[24360279](#)). 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.

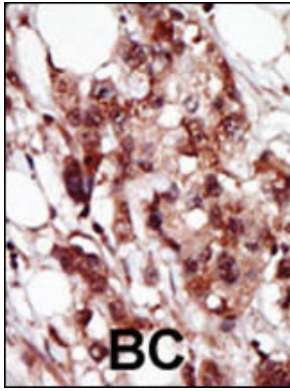
## Background

BRD4 is homologous to the murine protein MCAP, which associates with chromosomes during mitosis, and to the human RING3 protein, a serine/threonine kinase. Each of these proteins contains two bromodomains, a conserved sequence motif which may be involved in chromatin targeting. The gene has been implicated as the chromosome 19 target of translocation t(15;19)(q13;p13.1), which defines an upper respiratory tract carcinoma in young people.

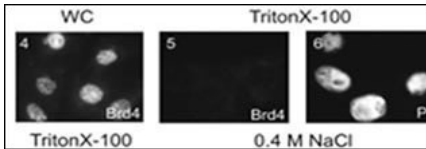
## References

- Maruyama, T., et al., Mol. Cell. Biol. 22(18):6509-6520 (2002).  
 French, C.A., et al., Am. J. Pathol. 159(6):1987-1992 (2001).  
 Dey, A., et al., Mol. Cell. Biol. 20(17):6537-6549 (2000).

## Images



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



Subnuclear distribution of cellular proteins. CHO Bgl40 cells grown on coverslips were either directly or after treatment with 0.5% Triton X-100, incubated with antibodies against Brd4 (images 4 and 5). PI, propidium iodide staining of cellular DNA (images 6). WC, whole cells.

## Citations

- [BRD4 regulates fructose-inducible lipid accumulation-related genes in the mouse liver.](#)
- [Amino acid substitutions that specifically impair the transcriptional activity of papillomavirus E2 affect binding to the long isoform of Brd4.](#)
- [Characterization of the functional activities of the bovine papillomavirus type 1 E2 protein single-chain heterodimers.](#)
- [Association of bovine papillomavirus E2 protein with nuclear structures in vivo.](#)

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