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## **BRD4** Recombinant Monoclonal Antibody

| Product Code               | CSB-RA152430A0HU  |
|----------------------------|---|
| Storage                    | Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.   |
| Uniprot No.                | O60885  |
| Immunogen                  | A synthesized peptide derived from human Brd4   |
| Species Reactivity         | Human   |
| <b>Tested Applications</b> | ELISA, WB, IHC; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200   |
| Relevance                  | 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. 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. 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: BRD4 is 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. 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. Also acts as a regulator of p53/TP53 specific target promoters. |
| Form                       | Liquid  |
| Conjugate                  | Non-conjugated  |
| Storage Buffer             | Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.   |
| Purification Method        | Affinity-chromatography   |
| Isotype                    | Rabbit IgG  |
| Clonality                  | Monoclonal  |
| Product Type               | Recombinant Antibody  |
| Immunogen Species          | Homo sapiens (Human)  |
| Research Area              | Epigenetics and Nuclear Signaling; Cancer   |
| Gene Names                 | BRD4  |
| Clone No.                  | 1E5   |

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## Image



Western Blot Positive WB detected in: Hela whole cell lysate, 293T whole cell lysate, HepG2 whole cell lysate, A549 whole cell lysate All lanes: BRD4 antibody at 1:1500 Secondary Goat polyclonal to rabbit IgG at 1/50000 dilution Predicted band size: 153, 81, 89 kDa Observed band size: 153 kDa



IHC image of CSB-RA152430A0HU diluted at 1:100 and staining in paraffin-embedded human brain tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.



IHC image of CSB-RA152430A0HU diluted at 1:100 and staining in paraffin-embedded human breast cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.

## Description

The production of the BRD4 recombinant monoclonal antibody involves DNA recombinant technology and in vitro genetic manipulation. Immunizing an animal with a synthesized peptide derived from human BRD4 to isolate B cells, from which positive B cells are selected. And then positive B cell screening and single clone identification are performed. Amplifying the light and heavy chains of the BRD4 antibody through PCR and then these genes into a plasmid vector to get a recombinant vector, which is transfected into a host cell line for antibody expression. Collecting and purifying the BRD4 recombinant monoclonal antibody from the cell culture supernatant through affinity chromatography. This antibody can react with human BRD4 protein and is recommended for ELISA, WB, and IHC applications.

BRD4, a chromatin-associated protein, is a key player in regulating the expression of genes that are critical for cell cycle progression. BRD4 binds to acetylated lysine residues on histone tails, and promotes the recruitment of



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transcriptional machinery to specific genes, leading to the activation of gene expression. BRD4 also interacts with RNA polymerase II and is thought to help facilitate transcriptional elongation. It has been shown to be involved in regulating cell growth and differentiation. It is also implicated in a variety of diseases, including cancer and inflammation.