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BRD2 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8049c

Product Information

Application	WB, IHC-P, E
Primary Accession	P25440
Other Accession	Q6MGA9, Q7JJ13, Q32S26
Reactivity	Human
Predicted	Bovine, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	88061
Antigen Region	170-200

Additional Information

Gene ID	6046
Other Names	Bromodomain-containing protein 2, O2711, Really interesting new gene 3 protein, BRD2, KIAA9001, RING3
Target/Specificity	This BRD2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 170-200 amino acids from the Central region of human BRD2.
Dilution	WB~~1:1000 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	BRD2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	BRD2 {ECO:0000303|PubMed:16227282, ECO:0000312|HGNC:HGNC:1103}
Function	Chromatin reader protein that specifically recognizes and binds histone H4 acetylated at 'Lys-5' and 'Lys-12' (H4K5ac and H4K12ac, respectively), thereby controlling gene expression and remodeling chromatin structures

(PubMed:17148447, PubMed:17848202, PubMed:18406326, PubMed:20048151, PubMed:20709061, PubMed:20871596). Recruits transcription factors and coactivators to target gene sites, and activates RNA polymerase II machinery for transcriptional elongation (PubMed:28262505). Plays a key role in genome compartmentalization via its association with CTCF and cohesin: recruited to chromatin by CTCF and promotes formation of topologically associating domains (TADs) via its ability to bind acetylated histones, contributing to CTCF boundary formation and enhancer insulation (PubMed:35410381). Also recognizes and binds acetylated non-histone proteins, such as STAT3 (PubMed:28262505). Involved in inflammatory response by regulating differentiation of naive CD4(+) T-cells into T- helper Th17: recognizes and binds STAT3 acetylated at 'Lys-87', promoting STAT3 recruitment to chromatin (PubMed:28262505). In addition to acetylated lysines, also recognizes and binds lysine residues on histones that are both methylated and acetylated on the same side chain to form N6-acetyl-N6-methyllysine (Kacme), an epigenetic mark of active chromatin associated with increased transcriptional initiation (PubMed:37731000). Specifically binds histone H4 acetyl-methylated at 'Lys-5' and 'Lys-12' (H4K5acme and H4K12acme, respectively) (PubMed:37731000).

Cellular Location Nucleus. Chromosome Note=Detected on chromatin and nucleosomes

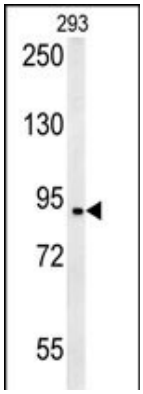
Background

BRD2 is a mitogen-activated kinase which localizes to the nucleus. The gene maps to the major histocompatability complex (MHC) class II region on chromosome 6p21.3 but sequence comparison suggests that the protein is not involved in the immune response. Homology to the Drosophila gene female sterile homeotic suggests that this human protein may be part of a signal transduction pathway involved in growth control.

References

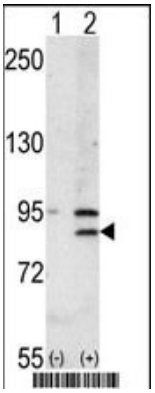
Pal, D.K., et al., Am. J. Hum. Genet. 73(2):261-270 (2003).
Crowley, T.E., et al., Mol. Endocrinol. 16(8):1727-1737 (2002).
Denis, G.V., et al., Cell Growth Differ. 11(8):417-424 (2000).
Taniguchi, Y., et al., Genomics 51(1):114-123 (1998).
Thorpe, K.L., et al., Immunogenetics 44(5):391-396 (1996).

Images

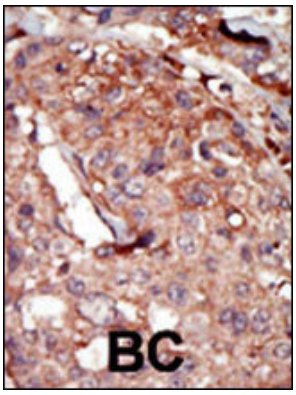


BRD2-Q185 (Cat.#AP8049c) western blot analysis in 293 cell line lysates (35ug/lane).This demonstrates the BRD2 antibody detected the BRD2 protein (arrow).

Western blot analysis of BRD2 (arrow) using rabbit polyclonal BRD2 Antibody (Center) (Cat.#AP8049c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or



transiently transfected with the BRD2 gene (Lane 2) (Origene Technologies).



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.