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BRD2 Rabbit pAb

Catalog # AP98925

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P25440
Other Accession	P25440
Reactivity	Rat, Human, Mouse
Predicted	Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	88061
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human BRD2
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 2 bromo domains. Contains 1 ET domain.
SUBUNIT	Homodimer. Interacts with E2F1 and with histone H4acetylated at 'Lys-13'.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a transcriptional regulator that belongs to the BET (bromodomains and extra terminal domain) family of proteins. This protein associates with transcription complexes and with acetylated chromatin during mitosis, and it selectively binds to the acetylated lysine-12 residue of histone H4 via its two bromodomains. 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. This gene has been implicated in juvenile myoclonic epilepsy, a common form of epilepsy that becomes apparent in adolescence. Multiple alternatively spliced variants have been described for this gene. [provided by RefSeq, Dec 2010]

Additional Information

Gene ID	6046
Other Names	BRD2-IT1; D6S113E; FSH; FSHRG1; FSRG1; NAT; O27.1.1; RING3; RNF3; D17H6S113E; Frg-1; Fsrg-1; mKIAA4005; BRD2_HUMAN; BRD2; KIAA9001; BRD2_MOUSE; Female sterile homeotic-related protein 1 (Fsrg-1); Kiaa4005; BRD2_RAT; Protein RING3; bromodomain containing 2; bromodomain-containing 2; BRD2 intronic transcript 1; really interesting new gene 3; female sterile homeotic related gene 1
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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

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