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#5848

Brd2 (D89B4) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, W-S, ChIP, ChIP-seq, C&R	H M	Endogenous	110	Rabbit IgG	#P25440	6046

Product Usage Information

For optimal ChIP and ChIP-seq results, use 10 μl of antibody and 10 μg of chromatin (approximately 4 x 10^6 cells) per IP. This antibody has been validated using SimpleChIP® Enzymatic Chromatin IP Kits.

The CUT&RUN dilution was determined using CUT&RUN Assay Kit #86652.

Application	Dilution
Western Blotting	1:1000
Simple Western™	1:50 - 1:250
Chromatin IP	1:50
Chromatin IP-seq	1:50
CUT&RUN	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Brd2 (D89B4) Rabbit mAb recognizes endogenous levels of total Brd2 protein. This antibody may cross-react with Brd3 protein.

Species predicted to react based on 100% sequence homology

Rat, Monkey

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala310 of human Brd2 protein.

Background

Brd2 is a highly conserved member of the BET subfamily of bromodomain proteins that contain two tandem N-terminal bromodomains and a single C-terminal extra-terminal (ET) domain (1). In addition to its involvement in guiding the expression of cell cycle genes through its binding to multiple E2Fs (2), Brd2 has been shown to be associated with several regulators of transcription, including TFIID and Swi/Snf complexes (3,4). First identified as a nuclear serine/threonine kinase (2), Brd2, like other bromodomain proteins, is thought to function in mammalian development by regulating chromatin structure and transcription (5). Brd2 has been shown to bind to histone H4 via acetylated Lys12, a substrate of several histone acetyltransferase transcriptional coactivators (6). In mouse, Brd2 has the highest levels of expression during embryogenesis and in the adult testis, ovaries, and brain (3,7,8). Brd2-deficient mouse embryos exhibit delayed development and eventual death due to neural tube closure defects (5). Mutations in the promoter of the *Brd2* gene have been associated with increased susceptibility to juvenile myoclonic epilepsy (JME) (9).

Background References

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2. Denis, G.V. et al. (2000) *Cell Growth Differ* 11, 417-24.
3. Crowley, T.E. et al. (2002) *Mol Endocrinol* 16, 1727-37.
4. Denis, G.V. et al. (2006) *J Proteome Res* 5, 502-11.
5. Gyuris, A. et al. (2009) *Biochim Biophys Acta* 1789, 413-21.
6. Kanno, T. et al. (2004) *Mol Cell* 13, 33-43.
7. Shang, E. et al. (2004) *Gene Expr Patterns* 4, 513-9.
8. Trousdale, R.K. and Wolgemuth, D.J. (2004) *Mol Reprod Dev* 68, 261-8.
9. Pal, D.K. et al. (2003) *Am J Hum Genet* 73, 261-70.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key	**W:** Western Blotting **W-S:** Simple Western™ **ChIP:** Chromatin IP **ChIP-seq:** Chromatin IP-seq **C&R:** CUT&RUN
Cross-Reactivity Key	**H:** Human **M:** Mouse
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