Revision 7

Store at -20C

#12137

Brn2/POU3F2 (D2C1L) Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-F, ChIP, ChIP-seq, C&R, C&T	H M R	Endogenous	55	Rabbit IgG	#P20265	5454

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.

The CUT&Tag dilution was determined using CUT&Tag Assay Kit #77552.

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (Frozen)	1:1600 - 1:3200
Chromatin IP	1:50
Chromatin IP-seq	1:50
CUT&RUN	1:50
CUT&Tag	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.

For a carrier free (BSA and azide free) version of this product see product #35173.

Specificity/Sensitivity

Brn2/POU3F2 (D2C1L) Rabbit mAb recognizes endogenous levels of total Brn2/POU3F2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human Brn2/POU3F2 protein.

Background

Brn2/POU3F2 is a POU domain-containing transcription factor involved in neuronal differentiation and activation of the corticotrophin-releasing hormone gene (1,2). In mice, disruption of the Brn2 gene results in loss of specific neuronal lineages in the hypothalamus (3). In addition to its role in mammalian neurogenesis, Brn2 has also been implicated in melanoma tumorigenesis and has been shown in the literature to be overexpressed in human melanoma cells compared to normal melanocytes (4,5). Recent studies also identify Brn2 as a transcription factor playing an important role in keratinocyte differentiation (6). Recent reports demonstrate that overexpression of three transcription factors (Brn2, Ascl1, and Myt1L) can directly convert human fibroblasts into functional neurons under precisely defined conditions (7,8).

Background References

1. Fujii, H. and Hamada, H. (1993) *Neuron* 11, 1197-206.
2. Schonemann, M.D. et al. (1995) *Genes Dev* 9, 3122-35.
3. Nakai, S. et al. (1995) *Genes Dev* 9, 3109-21.
4. Cook, A.L. et al. (2003) *J Invest Dermatol* 121, 1150-9.
5. Cook, A.L. and Sturm, R.A. (2008) *Pigment Cell Melanoma Res* 21, 611-26.
6. Shi, G. et al. (2010) *PLoS One* 5, e13216.
7. Pfisterer, U. et al. (2011) *Proc Natl Acad Sci USA* 108, 10343-8.
8. Ambasudhan, R. et al. (2011) *Cell Stem Cell* 9, 113-8.

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 **IP:** Immunoprecipitation **IF-F:** Immunofluorescence (Frozen) **ChIP:** Chromatin IP **ChIP-seq:** Chromatin IP-seq **C&R:** CUT&RUN **C&T:** CUT&Tag

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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Limited Uses