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DPF3 Antibody

Catalog # ASC11722

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q92784
Other Accession	NP_036206, 148762958
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	43084
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	DPF3 antibody can be used for detection of DPF3 by Western blot at 1 - 2 g/ml. Antibody can also be used for Immunohistochemistry at 5 g/mL. For Immunoflorescence start at 20 g/mL.

Additional Information

Gene ID	8110
Other Names	Zinc finger protein DPF3, BRG1-associated factor 45C, BAF45C, Zinc finger protein cer-d4, DPF3, BAF45C, CERD4
Target/Specificity	DPF3; DPF3 antibody is human and mouse reactive. Multiple isoforms of DPF3 are known to exist.
Reconstitution & Storage	DPF3 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	DPF3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DPF3
Synonyms	BAF45C, CERD4
Function	Belongs to the neuron-specific chromatin remodeling complex (nBAF complex). During neural development a switch from a stem/progenitor to a post-mitotic chromatin remodeling mechanism occurs as neurons exit the cell cycle and become committed to their adult state. The transition from proliferating neural stem/progenitor cells to post-mitotic neurons requires a switch in subunit composition of the npBAF and nBAF complexes. As neural progenitors exit mitosis and differentiate into neurons, npBAF complexes which contain ACTL6A/BAF53A and PHF10/BAF45A, are exchanged for

homologous alternative ACTL6B/BAF53B and DPF1/BAF45B or DPF3/BAF45C subunits in neuron- specific complexes (nBAF). The npBAF complex is essential for the self- renewal/proliferative capacity of the multipotent neural stem cells. The nBAF complex along with CREST plays a role regulating the activity of genes essential for dendrite growth (By similarity). Muscle-specific component of the BAF complex, a multiprotein complex involved in transcriptional activation and repression of select genes by chromatin remodeling (alteration of DNA-nucleosome topology). Specifically binds acetylated lysines on histone 3 and 4 (H3K14ac, H3K9ac, H4K5ac, H4K8ac, H4K12ac, H4K16ac). In the complex, it acts as a tissue-specific anchor between histone acetylations and methylations and chromatin remodeling. It thereby probably plays an essential role in heart and skeletal muscle development.

Cellular Location Nucleus.

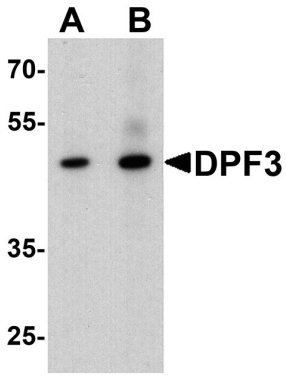
Background

The DPF3 protein, also known as Cerd4, is a member of the d4 gene family of transcription modulators that also includes DPF1/Neud4 and DPF2/Requiem (1). DPF3 has been shown to be a epigenetic key factor for heart and muscle development and can bind to methylated and acetylated lysine residues of histone 3 and 4, suggesting that DPF3 may play a role in recruiting chromatin remodeling complexes to acetylated histones (2). Two isoforms of DPF3, DPF3a and DPF3b, are required as transcriptional co-activators in SWI/SNF complex-dependent activation of the NF-kappaB RelA/p50 heterodimer (3).

References

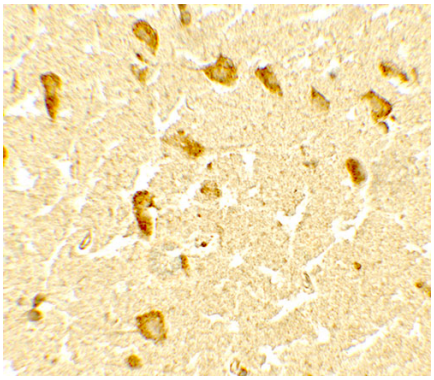
Ninkina NN, Mertsalov IB, Kulikova DA, et al. Cerd4, third member of the d4 gene family: expression and organization of genomic locus. Mamm. Genome 2001; 12:862-6.
Lange M, Kaynak B, Forster UB. Regulation of muscle development by DBF3, a novel histone acetylation and methylation reader of the BAF chromatin remodeling complex. Genes Dev. 2008; 22:2370-84.
Ishizaka A, Mizutani T, Kobayashi K, et al. Double plant homeodomain (PHD) finger proteins DPF3a and -3b are required as transcriptional co-activators in SWI/SNF complex-dependent activation of NF-kappaB RelA/p50 heterodimer. J. Biol. Chem. 2012; 287:11924-33.

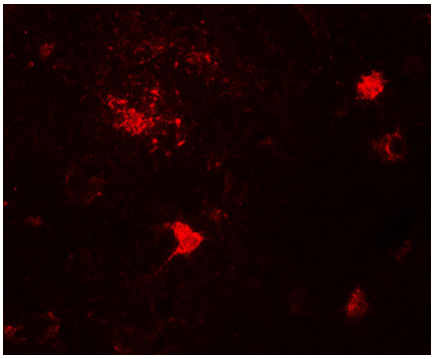
Images



Western blot analysis of DPF3 in mouse brain tissue lysate with DPF3 antibody at (A) 1 and (B) 2 µg/ml.

Immunohistochemistry of DPF3 in human brain tissue with DPF3 antibody at 5 µg/mL.





Immunofluorescence of DPF3 in human brain tissue with DPF3 antibody at 20 µg/mL.

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