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DPF3 Antibody
Catalog # ASC11722

Specification

DPF3 Antibody - Product Information

Application	**WB, IHC-P, IF, E**
Primary Accession	Q92784
Other Accession	NP_036206, 148762958
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**Predicted: 39 kDa** **Observed: 50 kDa KDa**
Application Notes	**DPF3 antibody can be used for detection of DPF3 by Western blot at 1 - 2 µg/ml. Antibody can also be used for Immunohistochemistry at 5 µg/mL. For Immunoflorescence start at 20 µg/mL.**

DPF3 Antibody - Additional Information

Gene ID **8110**

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.

DPF3 Antibody - 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.

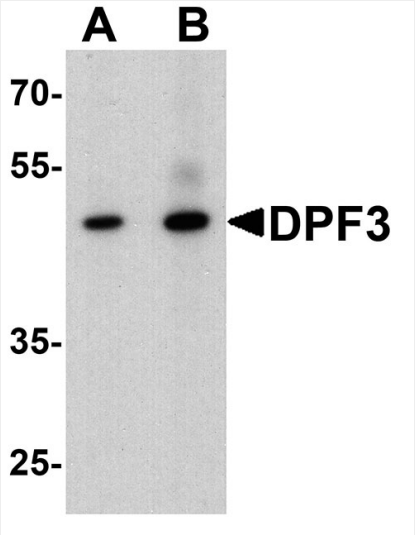
Cellular Location
Nucleus.

DPF3 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

DPF3 Antibody - Images



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

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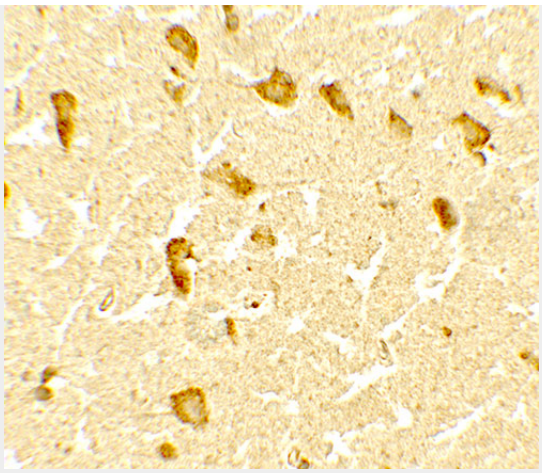
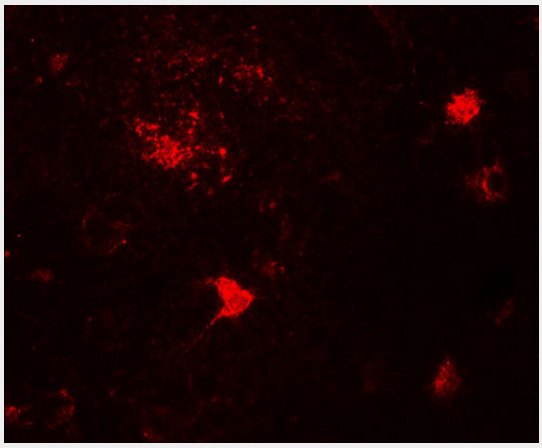


Immunohistochemistry of DPF3 in human brain tissue with DPF3 antibody at 5 µg/mL.



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

DPF3 Antibody - 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).

DPF3 Antibody - 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.