

OPA1 Polyclonal Antibody

Catalog NumberPA1-16991

Product data sheet

Details		Species Reactivity	
Size	100 µL	Species reactivity	Chicken, Human, Mouse, Pig, Rat, Zebrafish
Host/Isotope	Rabbit / IgG	Published species	Pig, Mouse, Not Applicable
Class	Polyclonal	Tested Applications	
Type	Antibody	Immunohistochemistry (Paraffin) (IHC (P))	2.5 µg/mL
Immunogen	Synthetic peptide corresponding to residues 500-600 of human Opa1.	Western Blot (WB)	2 µg/mL
Conjugate	Unconjugated	Immunocytochemistry (ICC/IF)	Assay-Dependent
Form	Liquid	Published Applications	
Concentration	1 mg/mL	Western Blot (WB)	See 2 publications below
Purification	Antigen affinity chromatography	* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.	
Storage buffer	PBS		
Contains	0.02% sodium azide		
Storage Conditions	-20° C, Avoid Freeze/Thaw Cycles		

Product specific information

This antibody shares 100% sequence homology with primate, 94% with zebrafish. Suggested positive control: human brain protein.

Background/Target Information

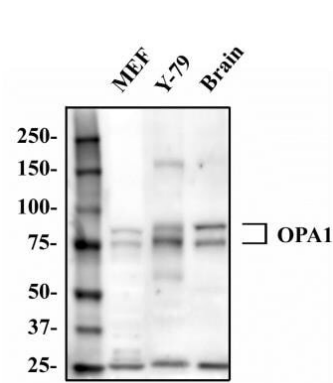
OPA1 is a dynamin-related GTPase that is critical for the maintenance of mitochondrial morphology and mtDNA. The most commonly associated phenotype with OPA1 mutations is heterozygous optic atrophy, a heterozygous dominant trait that causes reduced visual clarity and sometimes blindness. The disease usually begins in childhood and increases in severity throughout the life of affected individuals. Usually, this phenotype is attributed to the degeneration of optic nerve fibers. Interestingly, the same type of nerve degeneration seems to be partially causative of certain schizophrenia characteristics. OPA1 dysfunction also seems to be implicated in this case; mitochondrial networks associated with critical nerves seem to link schizophrenia and OPA1. The dysfunction is associated with issues with apoptosis and normal cellular metabolic regulation, all regulated through OPA1.

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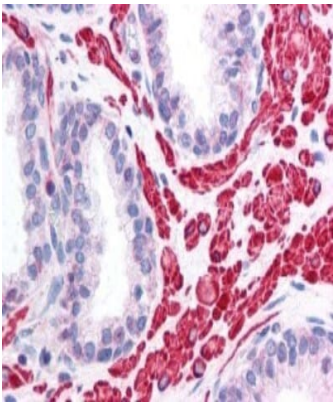
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OPA1 Antibody (PA1-16991) in WB

Western blot analysis of OPA1 in human HeLa cells, mouse MEF cells and rat brain. Samples were incubated in OPA1 polyclonal antibody (Product # PA1-16991) using a dilution of 2 µg/mL followed by an anti-rabbit HRP secondary antibody. Separated on a 7.5% gel by SDS-PAGE, transferred to PVDF membrane and blocked in 5% non-fat milk in TBST. The protein ladder was detected with an anti-mouse HRP secondary antibody. Detection: chemiluminescence.



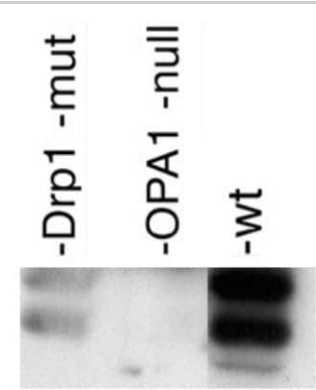
OPA1 Antibody (PA1-16991) in IHC (P)

Immunohistochemical analysis of OPA1 in prostatic smooth muscle and glandular epithelium. Samples were incubated in OPA1 polyclonal antibody (Product # PA1-16991). Human Prostate 40X magnification.



OPA1 Antibody (PA1-16991) in WB

Western blot analysis of OPA1 in 0.5 mg/mL MEF lysate. Samples were incubated in OPA1 polyclonal (Product # PA1-16991). This experiment was performed under reducing conditions using the 12-230 kDa separation system.



OPA1 Antibody (PA1-16991) in WB

Western blot analysis of OPA1 in post-nuclear extracts of mouse embryonic fibroblasts. Sample was incubated in OPA1 polyclonal antibody (Product # PA1-16991).

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PubMed References For OPA1 Polyclonal Antibody

2 Western Blot References

Species / Dilution	Summary
	PA1-16991 was used in Western Blotting to suggest that intracardiac injection of EphrinA1-Fc protects cardiac function by preserving cardiomyocyte structure and mitochondrial bioenergetics, thus emerging as a potential therapeutic strategy in I /R injury.
Mouse / Not Cited	Life sciences (2019; 239:) "Intracardiac administration of ephrinA1-Fc preserves mitochondrial bioenergetics during acute ischemia /reperfusion injury." Author(s):Torres MJ,McLaughlin KL,Renegar RH,Valsaraj S,Whitehurst KS,Sharaf OM,Sharma UM,Horton JL,Sarathy B, Parks JC,Brault JJ,Fisher-Wellman KH,Neufer PD,Virag JAI PubMed Article URL: http://dx.doi.org/10.1016/j.lfs.2019.117053
	PA1-16991 was used in western blot to use diabetic mice fed a high-fat diet to study disease-related changes in mitochondrial function and proteomics
Mouse / Not Cited	Molecular & cellular proteomics : MCP (2013; 12: 3744) "Quantitative proteomic and functional analysis of liver mitochondria from high fat diet (HFD) diabetic mice." Author(s):Guo Y,Darshi M,Ma Y,Perkins GA,Shen Z,Haushalter KJ,Saito R,Chen A,Lee YS,Patel HH,Briggs SP,Ellisman MH,Olefsky JM,Taylor SS PubMed Article URL: http://dx.doi.org/10.1074/mcp.M113.027441

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