

POLB Monoclonal Antibody (18S)

Catalog NumberMA5-13899

Product data sheet

Details		Species Reactivity	
Size	500 µL	Species reactivity	Bovine, Hamster, Human, Mouse, Rat, Xenopus
Host/Isotope	Mouse / IgG1	Published species	Rabbit, Mouse, Human
Class	Monoclonal	Tested Applications	Dilution *
Type	Antibody	Immunoprecipitation (IP)	2 µg/mL
Clone	18S	Western Blot (WB)	1-2 µg/mL
Immunogen	Rat DNA polymerase beta protein	Published Applications	
Conjugate	Unconjugated	Immunocytochemistry (ICC/IF)	See 1 publications below
Form	Liquid	Western Blot (WB)	See 11 publications below
Concentration	0.2 mg/mL	ChIP assay (ChIP)	See 1 publications below
Purification	Protein G	* 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, pH 7.4, with 0.2% BSA		
Contains	0.09% sodium azide		
Storage Conditions	4° C		

Product specific information

MA5-13899 targets Rat DNA Polymerase beta in IP and WB applications and shows reactivity with Bovine, Hamster, Human, mouse, Rat, and Xenopus laevis samples. The MA5-13899 immunogen is rat DNA polymerase beta protein.

Background/Target Information

DNA polymerase beta comprises an amino-terminal 8- kDa domain and a carboxy-terminal 31- kDa domain. The N-terminal ssDNA binding domain has a deoxyribose phosphodiesterase activity while the C-terminal domain has a nucleotidyltransferase activity. Mammalian DNA polymerase beta, a DNA repair polymerase, is constitutively expressed in cultured cells, but treatment of cells with the DNA-alkylating agents such as N-methyl-N'-nitro-N-nitrosoguanidine (MNNG) or methyl methanesulfonate up-regulates beta-pol level. DNA polymerase beta fills single nucleotide gaps in DNA produced by the base excision repair pathway of mammalian cells.

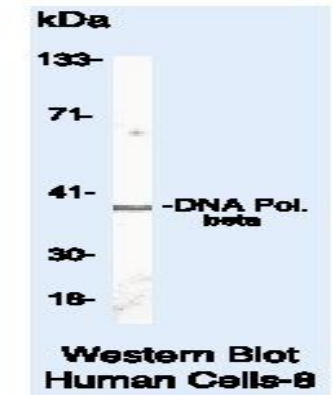
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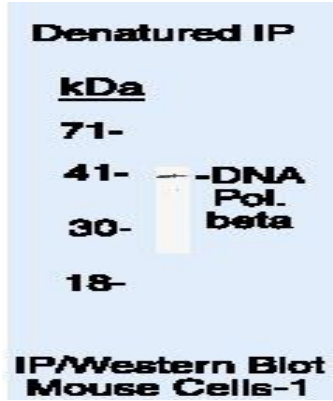
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Product Images For POLB Monoclonal Antibody (18S)



POLB Antibody (MA5-13899) in WB
Western blot of Rat DNA Polymerase beta using Rat DNA Polymerase beta Monoclonal Antibody (Product # MA5-13899) on HeLa Cells.



POLB Antibody (MA5-13899) in IP
Immunoprecipitation of Rat DNA Polymerase beta using Rat DNA Polymerase beta Monoclonal Antibody (Product # MA5-13899) on denatured Mouse MAD109 Cells.

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PubMed References For POLB Monoclonal Antibody (18S)

1 Immunocytochemistry References

Species / Dilution	Summary
	MA5-13899 was used in Western Blotting to suggest that FOXO3 serves as a protector of hematopoietic stem cells genomic stability and health.
Mouse / 1:3,000	The Journal of biological chemistry (2017; 292: 3005) "FOXO3 Transcription Factor Is Essential for Protecting Hematopoietic Stem and Progenitor Cells from Oxidative DNA Damage." Author(s):Bigarella CL,Li J,Rimmelé P,Liang R,Sobol RW,Ghaffari S PubMed Article URL: http://dx.doi.org/10.1074/jbc.M116.769455

11 Western Blot References

Species / Dilution	Summary
	MA5-13899 was used in western blot to study the role of methylation of DNA polymerase beta in regulating its binding to proliferating cell nuclear antigen
Human / Not Cited	FASEB journal : official publication of the Federation of American Societies for Experimental Biology (2007; 21: 26) "Methylation of DNA polymerase beta by protein arginine methyltransferase 1 regulates its binding to proliferating cell nuclear antigen." Author(s):El-Andaloussi N,Valovka T,Touelle M,Hassa PO,Gehrig P,Covic M,Hübscher U,Hottiger MO PubMed Article URL: http://dx.doi.org/10.1096/fj.06-6194com
Mouse / Not Cited	MA5-13899 was used in western blot to study connexin-specific cell-to-cell transfer of short interfering RNA by gap junctions The Journal of physiology (2005; 568: 459) "Connexin-specific cell-to-cell transfer of short interfering RNA by gap junctions." Author(s):Valiunas V,Polosina YY,Miller H,Potapova IA,Valiuniene L,Doronin S,Mathias RT,Robinson RB,Rosen MR,Cohen IS,Brink PR PubMed Article URL: http://dx.doi.org/10.1113/jphysiol.2005.090985
Mouse / Not Cited	MA5-13899 was used in western blot to study the interaction of folate deficiency and beta-pol haploinsufficiency in DNA damage repair The Journal of biological chemistry (2004; 279: 36504) "Imbalanced base excision repair in response to folate deficiency is accelerated by polymerase beta haploinsufficiency." Author(s):Cabelof DC,Raffoul JJ,Nakamura J,Kapoor D,Abdalla H,Heydari AR PubMed Article URL: http://dx.doi.org/10.1074/jbc.M405185200
Human / 1:200	MA5-13899 was used in western blot to study the expression of specialized DNA polymerases in cancer DNA repair (2005; 4: 583) "The overexpression of specialized DNA polymerases in cancer." Author(s):Albertella MR,Lau A,O'Connor MJ PubMed Article URL: http://dx.doi.org/10.1016/j.dnarep.2005.01.005
Human / 1:5000	MA5-13899 was used in western blot to investigate the role of protein stability in the choice of DNA repair mechanism. Nature communications (2014; 5:) "HSP90 regulates DNA repair via the interaction between XRCC1 and DNA polymerase ." Author(s):Fang Q,Inanc B,Schamus S,Wang XH,Wei L,Brown AR,Svilar D,Sugrue KF,Goellner EM,Zeng X,Yates NA,Lan L,Vens C,Sobol RW PubMed Article URL: http://dx.doi.org/10.1038/ncomms6513
Human / 1:1000	MA5-13899 was used in western blot to study the role of DNA polymerase beta in protecting human bronchial epithelial cells against hydroquinone cytotoxicity Biomedical and environmental sciences : BES (2007; 20: 171) "Possible role of DNA polymerase beta in protecting human bronchial epithelial cells against cytotoxicity of hydroquinone." Author(s):Hu DL,Tang HW,Liang HR,Tang DS,Liu YM,Ji WD,Yuan JH,He Y,Zhu ZY,Yang JP,Fang DK,Sha Y,Tu XZ,Zhuang ZX PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/17624194
Mouse / Not Cited	MA5-13899 was used in western blot to study the role of oxidative stress in the base excision repair pathway and apoptosis Free radical biology & medicine (2009; 46: 1488) "Oxidative stress alters base excision repair pathway and increases apoptotic response in apurinic/apyrimidinic endonuclease 1/redox factor-1 haploinsufficient mice." Author(s):Unnikrishnan A,Raffoul JJ,Patel HV,Prychitko TM,Anyangwe N,Meira LB,Friedberg EC,Cabelof DC,Heydari AR PubMed Article URL: http://dx.doi.org/10.1016/j.freeradbiomed.2009.02.021

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	MA5-13899 was used in western blot to investigate the molecular mechanisms of spontaneous mesenchymal stem cell transformation
Human / 1:500	PloS one (2008; 3:) "Molecular characterization of spontaneous mesenchymal stem cell transformation." Author(s):Rubio D,Garcia S,Paz MF,De la Cueva T,Lopez-Fernandez LA,Lloyd AC,Garcia-Castro J,Bernad A PubMed Article URL: http://dx.doi.org/10.1371/journal.pone.0001398
	MA5-13899 was used in western blot to study tissue-specific differences in DNA polymerase beta-dependent base excision repair in APE/REF-1 haploinsufficient mice
Mouse / Not Cited	The Journal of biological chemistry (2004; 279: 18425) "Apurinic/aprimidinic endonuclease (APE/REF-1) haploinsufficient mice display tissue-specific differences in DNA polymerase beta-dependent base excision repair." Author(s):Raffoul JJ,Cabelof DC,Nakamura J,Meira LB,Friedberg EC,Heydari AR PubMed Article URL: http://dx.doi.org/10.1074/jbc.M313983200
	MA5-13899 was used in western blot to investigate the influence of XRCC1 on camptothecin resistance
Human / Not Cited	Cancer research (2002; 62: 459) "X-ray repair cross-complementing gene I protein plays an important role in camptothecin resistance." Author(s):Park SY,Lam W,Cheng YC PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/11809696
	MA5-13899 was used in western blot to study the effects of dietary lipid levels on DNA damage and DNA repair pathways in experimentally induced atherosclerotic plaques
Rabbit / Not Cited	Circulation research (2001; 88: 733) "Oxidative DNA damage and repair in experimental atherosclerosis are reversed by dietary lipid lowering." Author(s):Martinet W,Knaapen MW,De Meyer GR,Herman AG,Kockx MM PubMed Article URL: http://dx.doi.org/10.1161/hh0701.088684
1 ChIP assay References	
Species / Dilution	Summary
	MA5-13899 was used in ChIP assay to study the role of a novel XRCC1-containing complex on cellular survival of methyl methanesulfonate treatment
Human / Not Cited	Molecular and cellular biology (2004; 24: 8356) "A new XRCC1-containing complex and its role in cellular survival of methyl methanesulfonate treatment." Author(s):Luo H,Chan DW,Yang T,Rodriguez M,Chen BP,Leng M,Mu JJ,Chen D,Songyang Z,Wang Y,Qin J PubMed Article URL: http://dx.doi.org/10.1128/MCB.24.19.8356-8365.2004

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