Product Datasheet

Histone H2AX [p Ser139] Antibody NB100-384

Unit Size: 0.1 ml

Store at 4C. Do not freeze.

www.novusbio.com technical@novusbio.com

Reviews: 1 Publications: 156

Protocols, Publications, Related Products, Reviews, Research Tools and Images at: www.novusbio.com/NB100-384

Updated 12/20/2023 v.20.1

Earn rewards for product reviews and publications.

Submit a publication at www.novusbio.com/publications Submit a review at www.novusbio.com/reviews/destination/NB100-384



NB100-384

Histone H2AX [p Ser139] Antibody

Product Information		
Unit Size	0.1 ml	
Concentration	1.0 mg/ml	
Storage	Store at 4C. Do not freeze.	
Clonality	Polyclonal	
Preservative	0.09% Sodium Azide	
Isotype	IgG	
Purity	Immunogen affinity purified	
Buffer	Tris-Citrate/Phosphate (pH 7.0 - 8.0)	
Target Molecular Weight	15 kDa	
Product Description		
Host	Rabbit	
Gene ID	3014	
Gene Symbol	H2AX	
Species	Human, Mouse, Rat, Canine	
Reactivity Notes	Rat reactivity reported in scientific literature (PMID: 27102221), Canine reactivity reported in scientific literature (PMID: 23365434).	
Marker	DNA Double-strand break marker	
Specificity/Sensitivity	The epitope maps to a region surrounding phosphorylated serine 139 of human histone H2AX.	
Immunogen	This Histone H2AX [p Ser139] Antibody was developed against to a region surrounding phosphorylated serine 139 of human histone H2AX [Swiss-Prot entry P16104] (GeneID 3014).	
Notes	Licensed to Novus Biologicals LLC under U.S. Patent Nos. 6,362,317 and 6,884,873.	
Product Application Details		
Applications	Western Blot, Simple Western, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, Chromatin Immunoprecipitation (ChIP), Knockout Validated	
Recommended Dilutions	Western Blot 1:10000-1:25000, Simple Western 5 ug/ml, Flow Cytometry 5 ug per 1 million cells, Immunohistochemistry 1:2000 - 1:10000, Immunocytochemistry/ Immunofluorescence 1:500 to 1:5000, Immunohistochemistry-Paraffin 1:2000 - 1:10000, Immunohistochemistry-Frozen 1:1000 - 1:5000, Chromatin Immunoprecipitation (ChIP), Knockout Validated	
Application Notes	For IHC, epitope retrieval with citrate buffer pH6.0 is recommended for FFPE tissue sections. Formaldehyde fixation is recommended. Permeabilization with Triton-X 100 is recommended for formaldehydefixed cells. Immunoprecipitation is not recommended. In Simple Western only 10 - 15 uL of the recommended dilution is used per data	
	point. Separated by Size-Wes, Sally Sue/Peggy Sue. Use in chromatin immunoprecipitation reported in scientific literature (PMID: 30049290).	



Images

Detection of Human and Mouse Histone H2AX [p Ser139] by Western Blot. Samples: Nuclear extract (50 ug) from human HEK293, human melanoma (G361), mouse wildtype embryonic fibroblasts (+/+) or mouse H2AX knockout embryonic fibroblasts (-/-). Antibody: Affinity purified rabbit Histone H2AX [p Ser139] antibody NB100-384 used at 0.1 ug/ml. Detection: Chemiluminescence with 30 second exposure. (NCS, neocarzinostatin - 200 ng/ml, 30 min). Bands appear at an observed molecular weight of ~15 kDa.

Samples: Neocarzinostatin treated asynchronous HeLa cells (left) and untreated asynchronous HeLa cells (right) . Antibody: Affinity purified rabbit Histone H2AX [p Ser139] used at a dilution of 1:5,000 (0.2ug/ml). Detection: Red fluorescent Anti-rabbit IgG-DyLight 594 used at a dilution of 1:100.

Simple Western lane view shows a specific band for Histone H2AX [p Ser139] in 0.2 mg/ml of Jurkat lysate(s). This experiment was performed under reducing conditions using the 12 - 230 kDa separation system.

Immunocompromised mice were subcutaneously injected with cancerous c cell lines and tumors were allowed to establish. Treatments occurred every other day and the studied compound or the equivalent vehicle control administered intraperitoneally for five weeks. Tumor volume and mass were measured two times per week. IHC analysis of sectioned tumor tissues from the MDA-MB-231 study. Each section was subjected to the specified antibody followed by a biotinylated secondary antibody. Detection was done using a DAB Peroxidase HRP Substrate Kit (brown) followed by Hematoxylin counterstaining (purple). Images were obtained using inverted bright field microscopy. Sectioning results are representative of three individual tumors. Scale bar is 50 microns. Image collected and cropped by CiteAb from the following publication (nature.com/articles/s41598-017-01230-4), licensed under a CC-BY license.

www.novusbio.com











Page 3 of 10 v.20.1 Updated 12/20/2023 Immunostaining of Histone H2AX [p Ser139] WT1 and 5mC in patients with IgA nephropathy and controls. Examples of PAS staining and immunostaining with Histone H2AX [p Ser139] (green) and WT1 (red), pATM and 5mC in glomeruli of IgA nephropathy and controls. A kidney sample of a 65-year-old male of IgA nephropathy without podocytopathic features. Arrows indicate Histone H2AX [p Ser139] and WT1 doublepositive cells. Scale bars: 50um. Image collected and cropped by CiteAb from the following publication (https://www.nature.com/articles/s41598-019-57140-0) licensed under a CC-BY license. Samples: Nuclear extract from HeLa cells treated with 100 uM EPE for 4 kDa 250hours (+) or mock treated (-). Antibody: Affinity purified rabbit Histone H2AX [p Ser139] antibody used at 0.1 ug/ml. Detection: 130-Chemiluminescence with an exposure time of 3 minutes. Band appears 70at an observed molecular weight of ~17 kDa. 51-38-28-19 - gamma H2AX 16 Protein (µg) Etoposide Detection of human Histone H2AX [p Ser139] by western blot. Samples: kDa 250-Whole cell lysate (50 ug) from Jurkat cells treated with 100 uM EPE for 4 hours (+) or mock treated (-). Antibody: Affinity purified rabbit Histone 130-H2AX [p Ser139] antibody NB100-384 used for WB at 0.1 ug/ml. 70-Detection: Chemiluminescence with an exposure time of 3 seconds. 51-Band appears at an observed molecular weight of ~18 kDa. 38-28-19 gamma-H2AX 16 Jurkat (µg) FFPE section of mouse CT26 colon carcinoma. Antibody: Affinity purified rabbi Histone H2AX [p Ser139] antibody used at a dilution of 1:1,000 (1 ug/ml). Detection: DAB.

www.novusbio.com







mTORC1/2 activity prevents Cisplatin-induced cell death in MCF-10A cells. (A) Western blot displaying effects on mTOR signaling during a dose escalation of PP242 treatment in MCF-10A cells; (B) Western blot displaying effects of mTOR signaling on a dose escalation of cisplatin treatment in MCF-10A cells; (C) Western blot displaying effects on mTOR signaling and cell death during non-treated, Cisplatin, PP242, and Cisplatin + PP242-treated MCF-10A cells.	B C splatin (in µM) 0 1 5 10 25 50 pSer473 Akt pAkt Total Akt 0 0 0 3 0 5 0 3 0 2 0 01 p-p70 58k p-p70. Total P2AX yH2AX yH2AX yH2AX yH2AX WCF-10A C splatin (in µM) 0 1 5 10 25 50 pSer473 Akt 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
ERM expression and localization in SKBR3 breast cancer cells(A) Western blot analysis of ERM levels in SKBR3, HeLa and PC3 cells. SKBR3 breast cancer cells do not express moesin. (B) Colocalization of ezrin/radixin and ErbB2 in SKBR3 cells. 3D-SIM of fixed cells, stained for endogenous ERM and ErbB2, shows a high degree of colocalization between the ezrin/radixin and ErbB2 at the plasma membrane (left panel: max. projection; middle: single plane section; right: single channels of insert). Scale bars: 10 μ m. (C) Analysis of protein association in SKBR3 cells by proximity ligation assay (PLA). 2 h treatment with 3 μ M GA leads to decreased association of ezrin/ErbB2 and radixin/ErbB2. Data is represented as mean +/– SEM (***P < 0.001). (D) Corresponding single plan section of a representative PLA experiment. Fluorescence and DIC pictures of control cells (upper panel) and cell treated for 2 h with geldanamycin (lower panel) are shown. Scale bars: 10 μ m. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/27029001), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	D KU - + p-ATM CL ATM CL PARP1 CL GAPDH P-KAP1 NE γH2AX NE Lamin A/C
Digital image analysis of cytoplasmic and membranous staining. Cytoplasmic HIF-1 α staining is shown (A) and automated image analysis utilizing TissuelA recognizes cytoplasmic HIF-1 α staining highlighted in green color (B). CA9 is shown in membranous staining (C) and automated image analysis determines membranous CA9 staining highlighted in green color (D). The output from the algorithm returns a number of quantitative measurements for intensity and percentage of positive staining present. Scale bar: 100 µm. Image collected and cropped by CiteAb from the following open publication (https://translational-medicine.biomedcentral.com/articles/10.1186/1479- 5876-11-185), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	D Control CW-WT ETH-UF-LG

www.novusbio.com



Page 5 of 10 v.20.1 Updated 12/20/2023

Page 6 of 10 v.20.1 Updated 12/20/2023





Page 7 of 10 v.20.1 Updated 12/20/2023





DHA enhances autophagy in MM cells, which contributes to DHAinduced cell deathRPMI-8226 (A) and OPM-2 (B) were cultured with vehicle (Ctrl) or 100 μ M DHA for 24 hours in the presence or in the absence of Bafilomycin (Baf) and the expression of the autophagic markers such as LC3I/II and p62 was analyzed by Western blot; β -actin was included as control; numbers indicate band intensities (b.i.) = band volume/area x mean pixel intensity, normalized for β -actin and quantified using Quantity One 1-D analysis software; C. RPMI-8226 cells were cultured for 24 hours with vehicle (Ctrl) or 100 μ M DHA in presence or absence of 3-MA (0.3 mM) and their viability assessed by trypan blue exclusion assay (left panel) and cytofluorimetry cell cycle analysis of sub-G1 events, representing apoptotic cells (right panel). Representative experiments out of three. Image collected and cropped by CiteAb from the following open publication

(https://www.genesandcancer.com/lookup/doi/10.18632/genesandcancer .131), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

POT1 prevents DDR in human HSC. a Expression of POT1 in hCB CD34+ cells and LT-HSCs (Lin–CD34+CD38–CD45RA–CD90+CD49f+). b hCB-derived LT-HSCs were cultured with MTM-POT1. After 10 days of culture, cells were isolated and re-cultured in methylcellulose medium (200 cells per dish). The number of CFU-C and HPP-CFC (>1.0 mm, >2.0 mm) are shown. Data are expressed as the mean \pm SD (n = 3, *p < 0.01 by t-test). Representative data from three independent experiments are shown. c, d hCB LT-HSCs were cultured for 10 days with control MTM protein or MTM-POT1. After 10 days of culture, LT-HSCs were reisolated and number of TIF was examined. c Immunocytochemical staining of TRF1 (green), 53BP1 (red), and TOTO3 (blue). Scale bar, 2 µm (left). Frequencies of TIFs after 10 days of culture (right). Data are expressed as the mean \pm SD (n = 100: control, n = 100: MTM-POT1, *p < 0.01 by t-test). Representative data from 2 independent experiments are shown. d Immunocytochemical staining of TRF1 (green), RPA32 (red), and TOTO3 (blue). Scale bar, 2 µm (left). Frequencies of TIFs after 10 days of culture (right). Data are expressed as the mean \pm SD (n = 110– 120: control, n = 110: MTM-POT1, *p < 0.01 by t-test). Representative data from two independent experiments are shown Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/28986560), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

Cell numbers positively stained for NeuN, DCX, PCNA and caspase-3 in the subgranular region of the dentate gyrus in WT and RanBP9-/- (KO) mice.(A), DAPI-stained brain sections to show the highlighted subgranular zone within the dentate gyrus region of the hippocampus used for cell counts shown in B. (B), Representative brain sections stained with anti-NeuN, anti-DCX, anti-PCNA, anti-capsase-3 and counter stained with DAPI. Cell counting revealed significantly decreased numbers of NeuN positive cells in RanBP9-/- (KO) brains (22%) compared to WT controls. However DCX, PCNA and caspase positive cell numbers were not significantly altered. In each group, n=3, data presented as mean± SEM. **, p<0.01 by Student's t-test. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/23840553), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

Page 8 of 10 v.20.1 Updated 12/20/2023





SAN1 functions independently of the FA pathway and does not affect FA pathway activation. a, b CSAs of HeLa WT and SAN1-/- cells treated with scrambled ctrl siRNA or FANCD2 siRNA, in response to Cisplatin and MMC (N = 3). Statistical significance determined by two-way ANOVA. Error bars denote s.e.m. *p < 0.05, **p < 0.01, ***p < 0.001, ****p < 0.0001. c Immunoblot showing siRNA knockdown of FANCD2 in HeLa WT and SAN1-/- cells. d IF staining of FANCD2 foci in HeLa WT cells and SAN1-/- cells treated with 0.045 μM MMC. e Immunoblot of FANCD2 showing mono-ubiquitylation in HeLa WT and SAN1-/- cells treated with 0.045 μM MMC. f, g CSAs of HeLa WT and SAN1-/- cells treated with ctrl or SNM1A siRNA and exposed to Cisplatin or MMC. Statistical significance was determined by two-way ANOVA test. h Immunoblot of SNM1A in HeLa WT and SAN1-/- cells treated with ctrl or





Publications

Audet-Delage Y, St-Louis C, Minarrieta L et al. Spatiotemporal modeling of chemoresistance evolution in breast tumors uncovers dependencies on SLC38A7 and SLC46A1 Cell reports 2023-10-31 [PMID: 37792528] (FLOW, Human)

Wu D, Huang H, Chen T et al. The BRCA1/BARD1 complex recognizes pre-ribosomal RNA to facilitate homologous recombination Cell discovery 2023-10-03 [PMID: 37789001]

Ershova ES, Savinova EA, Kameneva LV et al. Satellite III (1q12) Copy Number Variation in Cultured Human Skin Fibroblasts from Schizophrenic Patients and Healthy Controls Frontiers in bioscience (Landmark edition) 2023-08-31 [PMID: 37664948] (FLOW, Human)

McCann JL, Cristini A, Law EK et al. APOBEC3B regulates R-loops and promotes transcription-associated mutagenesis in cancer Nature genetics 2023-09-21 [PMID: 37735199] (ICC/IF, Human)

Hishikawa A, Hayashi K, Kubo A et al. DNA repair factor KAT5 prevents ischemic acute kidney injury through glomerular filtration regulation iScience 2021-12-17 [PMID: 34877495]

Herok M, Wawrzynow B, Maluszek MJ et al. Chemotherapy of HER2- and MDM2-Enriched Breast Cancer Subtypes Induces Homologous Recombination DNA Repair and Chemoresistance Cancers (Basel) 2021-09-07 [PMID: 34572735]

Fielder E, Wan T, Alimohammadiha G et al. Short senolytic or senostatic interventions rescue progression of radiation-induced frailty and premature ageing in mice eLife 2022-05-04 [PMID: 35507395]

Pai G, Roohollahi K, Rockx D et al. Genome-wide siRNA screens identify RBBP9 function as a potential target in Fanconi anaemia-deficient head-and-neck squamous cell carcinoma Communications Biology 2023-01-13 [PMID: 36639418] (WB)

Hindle A, Koneru B, Makena MR et al. The O6-methyguanine-DNA methyltransferase inhibitor O6-benzylguanine enhanced activity of temozolomide + irinotecan against models of high-risk neuroblastoma Anti-Cancer Drugs 2021-03-01 [PMID: 33323683] (WB, B/N)

□ oku J, Booth DM, Skoda J et al. Reduced ER-mitochondria connectivity promotes neuroblastoma multidrug resistance The EMBO Journal 2022-04-19 [PMID: 35211994]

Nonaka K, Takubo K, Aida J et al. Accelerated telomere shortening in adrenal zona reticularis in patients with prolonged critical illness Front Endocrinol (Lausanne) 2023-09-04 [PMID: 37745694] (IHC)

Sakama S, Kurusu K, Morita M et al. An Enriched Environment Alters DNA Repair and Inflammatory Responses After Radiation Exposure Frontiers in Immunology 2021-10-22 [PMID: 34745135]

More publications at http://www.novusbio.com/NB100-384





Novus Biologicals USA

10730 E. Briarwood Avenue Centennial, CO 80112 USA Phone: 303.730.1950 Toll Free: 1.888.506.6887 Fax: 303.730.1966 nb-customerservice@bio-techne.com

Bio-Techne Canada

21 Canmotor Ave Toronto, ON M8Z 4E6 Canada Phone: 905.827.6400 Toll Free: 855.668.8722 Fax: 905.827.6402 canada.inquires@bio-techne.com

Bio-Techne Ltd

19 Barton Lane Abingdon Science Park Abingdon, OX14 3NB, United Kingdom Phone: (44) (0) 1235 529449 Free Phone: 0800 37 34 15 Fax: (44) (0) 1235 533420 info.EMEA@bio-techne.com

General Contact Information

www.novusbio.com Technical Support: nb-technical@biotechne.com Orders: nb-customerservice@bio-techne.com General: novus@novusbio.com

Products Related to NB100-384

NBP2-24891	Rabbit IgG Isotype Control
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NBL1-11424	Histone H2AX Overexpression Lysate

Limitations

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

For more information on our 100% guarantee, please visit www.novusbio.com/guarantee

Earn gift cards/discounts by submitting a review: www.novusbio.com/reviews/submit/NB100-384

Earn gift cards/discounts by submitting a publication using this product: www.novusbio.com/publications

www.novusbio.com

