

# Product Datasheet

## Histone H2AX [p Ser139] Antibody NB100-2280

Unit Size: 0.1 ml

Store at 4C. Do not freeze.

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**NB100-2280**

## Histone H2AX [p Ser139] Antibody

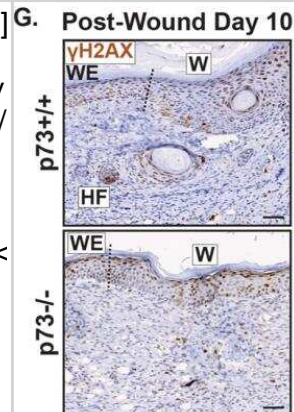
Product Information	
Unit Size	0.1 ml
Concentration	0.1 mg/ml
Storage	Store at 4C. Do not freeze.
Clonality	Polyclonal
Preservative	0.09% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	TBS and 0.1% BSA
Target Molecular Weight	15 kDa

Product Description	
Host	Rabbit
Gene ID	3014
Gene Symbol	H2AX
Species	Human, Mouse, Canine
Reactivity Notes	Based on sequence percent identity: Gorilla (100%), Macaque (100%), Canine reactivity reported in scientific literature (PMID: 26991424).
Marker	DNA Double-strand break marker
Immunogen	This Histone H2AX [p Ser139] Antibody was developed against a synthetic phospho-peptide, which represented a portion of the C-terminus of human histone H2AX surrounding phosphorylated serine 139 (GeneID 3014).
Notes	Licensed to Novus Biologicals LLC under U.S. Patent Nos. 6,362,317 and 6,884,873.

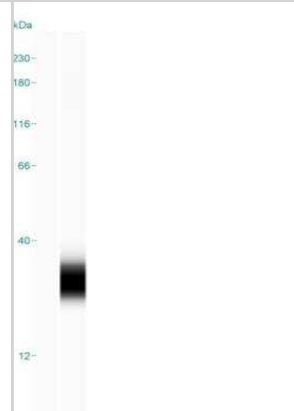
Product Application Details	
Applications	Western Blot, Simple Western, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1:100-1:2000, Simple Western 1:20, Immunohistochemistry, Immunocytochemistry/ Immunofluorescence 1:100 - 1:500, Immunohistochemistry-Paraffin 1:100-1:500, Immunohistochemistry-Frozen
Application Notes	<p>Epitope exposure is recommended. Epitope exposure with citrate buffer will enhance staining. Likely to work with frozen sections. Use in WB reported in scientific literature ( PMID 24415760). Use in IHC-Frozen reported in scientific literature (PMID 26577699).</p> <p>In Simple Western only 10 - 15 uL of the recommended dilution is used per data point. Separated by Size-Wes, Sally Sue/Peggy Sue.</p>

## Images

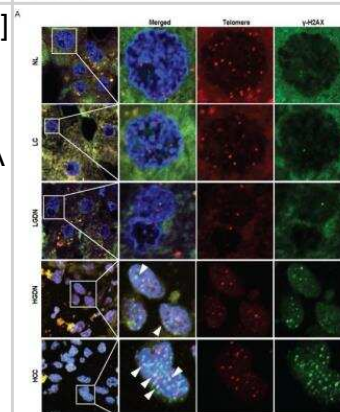
**Immunohistochemistry: Histone H2AX [p Ser139] Antibody [NB100-2280]**  
 - Biological and molecular analysis of cutaneous wound healing in p73+/+ and p73-/- mice. Representative micrographs of immunohistochemistry (IHC) staining for Histone H2AX [p Ser139] in skin specimens from p73+/+ and p73-/- mice 10 days after wounding. All scale bars represent 50  $\mu$ m. Regions of the skin are labeled as: IFE, HF, epidermal wound edge (WE), and newly-formed epidermis of the wound (W); and the dotted line indicates the border between the WE and W. \*p-value < 0.05, \*\*p-value < 0.01, \*\*\*p-value < 0.001. Image collected and cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0218458>), licensed under a CC-BY license.



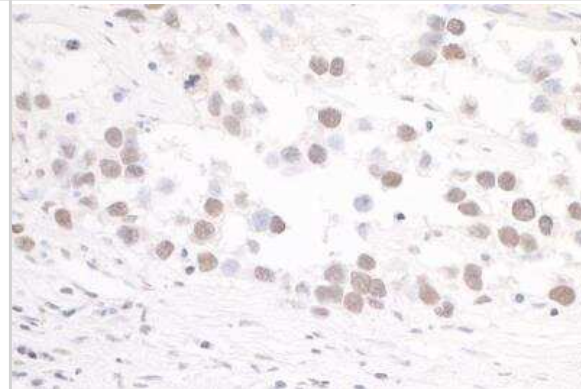
**Simple Western: Histone H2AX [p Ser139] Antibody [NB100-2280]**  
 - Simple Western lane view shows a specific band for Histone H2AX [p Ser139] in 0.2 mg/ml of Jurkat lysate(s). This experiment was performed under reducing conditions using the 12 - 230 kDa separation system.



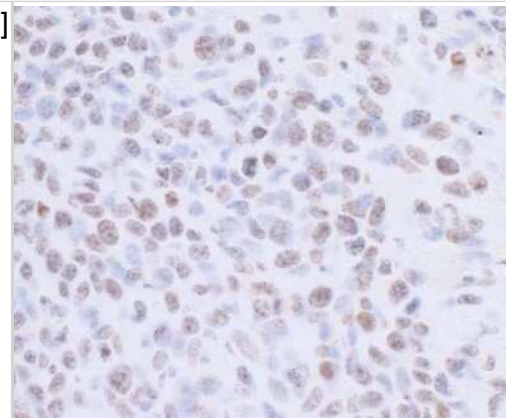
**Immunohistochemistry: Histone H2AX [p Ser139] Antibody [NB100-2280]**  
 - Telomere dysfunctional induced foci (TIF) in HBV-related multistep hepatocarcinogenesis and the correlations thereof with stathmin and elongation factor 1alpha (EF1alpha) expression. A. Representative features of colocalization of Histone H2AX [p Ser139] and telomeric DNA in defined lesions of human multistep hepatocarcinogenesis. TIF are indicated by colored arrowheads: blue, DAPI; green, gamma H2AX; red, telomeres; yellow, TIF. Image collected and cropped by CiteAb from the following publication (<https://translational-medicine.biomedcentral.com/articles/10.1186/1479-5876-12-154>) licensed under a CC-BY license.



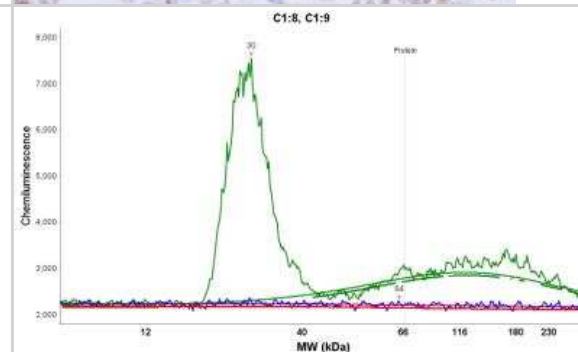
**Immunohistochemistry-Paraffin: Histone H2AX [p Ser139] Antibody [NB100-2280]**  
 - Detection of human Histone H2AX [p Ser139] antibody by immunohistochemistry. Sample: FFPE section of human seminoma. Antibodies: Affinity purified rabbit Histone H2AX [p Ser139] antibody used at a dilution of 1:500. Detection: DAB.



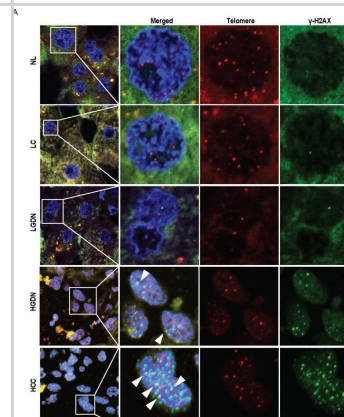
Immunohistochemistry: Histone H2AX [p Ser139] Antibody [NB100-2280] - Detection of Mouse Histone H2AX [p Ser139] by Immunohistochemistry. Sample: FFPE section of mouse colon carcinoma CT26. Antibodies: Affinity purified rabbit Histone H2AX [p Ser139] antibody. Detection: DAB.



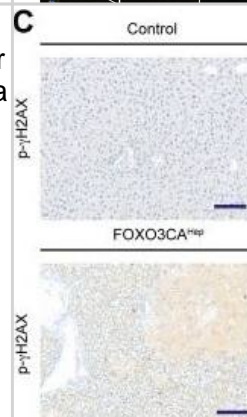
Simple Western: Histone H2AX [p Ser139] Antibody [NB100-2280] - Electropherogram image(s) of corresponding Simple Western lane view. Histone H2AX [p Ser139] antibody was used at 1:20 dilution on Jurkat lysate(s).



Telomere dysfunctional induced foci (TIF) in HBV-related multistep hepatocarcinogenesis and the correlations thereof with stathmin and elongation factor 1alpha (EF1alpha) expression. A. Representative features of colocalization of gamma-H2AX and telomeric DNA in defined lesions of human multistep hepatocarcinogenesis. TIF are indicated by colored arrowheads: blue, DAPI; green, gamma-H2AX; red, telomeres; yellow, TIF. Image collected and cropped by CiteAb from the following publication (<https://translational-medicine.biomedcentral.com/articles/10.1186/1479-5876-12-154>), licensed under a CC-BY licence.



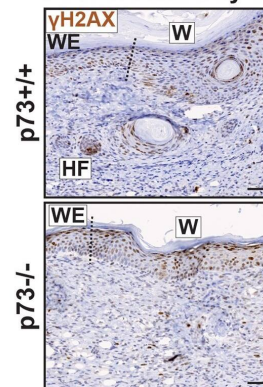
Hepatic activation of FOXO3 induces oxidative damage and Akt activation. c) Representative IHC staining for phospho-gammaH2AX (bar = 100 um) and quantification of phospho-gammaH2AX-positive cells as a percentage of total hepatocyte cells in livers of patients in area of small cells and large cells. Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/31488102>), licensed under a CC-BY licence.



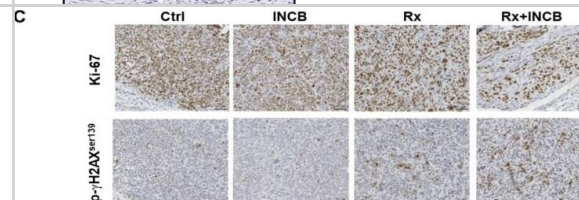


Biological and molecular analysis of cutaneous wound healing in p73+/+ and p73-/- mice. (G) Representative micrographs of immunohistochemistry (IHC) staining for gammaH2AX in skin specimens from p73+/+ and p73-/- mice 10 days after wounding. All scale bars represent 50  $\mu$ m. In In (C), (E), and (G), regions of the skin are labeled as: IFE, HF, epidermal wound edge (WE), and newly-formed epidermis of the wound (W); and the dotted line indicates the border between the WE and W. \*p-value < 0.05, \*\*p-value < 0.01, \*\*\*p-value < 0.001. See also S3 and S4 Figs. Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/31216312>), licensed under a CC-BY licence.

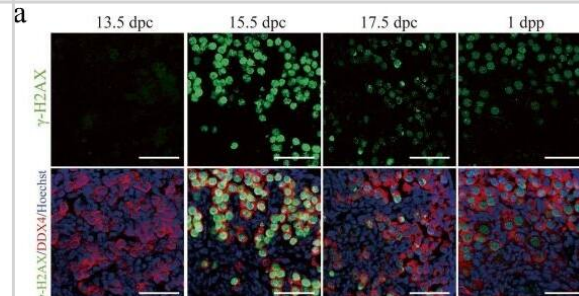
### G. Post-Wound Day 10



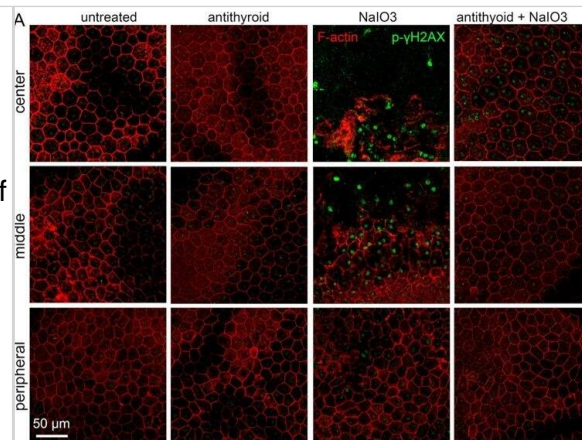
IDO1 inhibitor enhances the efficacy of radiotherapy in vivo.  $1 \times 10^5$  of SiHa tumorsphere cells were subcutaneously injected to nude mice for tumor growth. After the tumor volume reached 50 mm<sup>3</sup>, the mice were divided into four groups of non-treated (Ctrl), INCB-024360 treated (INCB), radiotherapy (Rx), or INCB-024360 plus radiotherapy (INCB + Rx). For the INCB or INCB + Rx group, mice were injected once with 50 mg/kg INCB-024360 intraperitoneally before radiotherapy. For the Rx or INCB + Rx group, mice received 2 Gy radiation per day for total 10 Gy. Mice were sacrificed at day 30 after the last radiation treatment and the xenografted tumors were taken out for picturing (A) and weighting (B). The expression of Ki-67 or p-gammaH2AXser139 was determined by paraffin section followed by immunohistochemical staining (C). The inserted bars indicated 50  $\mu$ m. The quantification results were performed by TissueFAX software (D). \* p < 0.05; \*\* p < 0.01. The experiments were repeated two times and data from one experiment were presented. Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/32545442>), licensed under a CC-BY licence.



Involvement of CBP in BNIP3 expression regulated by HIF-1 $\alpha$  and FOXO3 under hypoxia. (A) UCB-hMSCs were incubated with hypoxia condition for 24 h. Co-immunoprecipitation of HIF-1 $\alpha$  and FOXO3 with IgG and CBP were shown in left panel. IgG was used as a negative control. The total protein expressions of HIF-1 $\alpha$ , FOXO3, CBP and  $\beta$ -actin in lysate were shown in right panel. n = 3. (B) CBP (20  $\mu$ M) was pretreated to UCB-hMSCs, and cells were incubated with hypoxia for 24 h. The BNIP3 mRNA expression level was analyzed by qPCR. n = 6. (C) BNIP3 and  $\beta$ -actin protein expressions were analyzed by western blot. Data represent mean  $\pm$  S.E. n = 4. (D, E) Sample DNA was immuno-precipitated with RNA polymerase, IgG, HIF-1 $\alpha$  and FOXO3 specific antibodies. CHIP (top panel) and lysate (bottom panel) samples were amplified with the primers of GAPDH and BNIP3 promoters. Quantitative CHIP data was analyzed by qPCR, and shown in the right panel. n = 4. Western blot data were normalized by  $\beta$ -actin, and qPCR data were normalized by ACTB mRNA expression level. Quantitative data are presented as a mean  $\pm$  S.E.M. All blot images are representative. \*p < 0.05 versus control, #p < 0.05 versus hypoxia. Image collected and cropped by CiteAb from the following open publication (<https://linkinghub.elsevier.com/retrieve/pii/S2213231717303804>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Nox4 overexpression accelerated senescence of NP cells. (a, b) RT-qPCR analysis (N = 4) and representative immunoblot analysis of p53, p16, p21, and Rb in NP cells overexpressing Nox4. (c) The percentage of SA- $\beta$ -gal-positive NP cells overexpressing Nox4 (N = 8). (d, e) Immunofluorescence staining of BrdU and percentage of BrdU-positive cells in NP cells overexpressing Nox4 (N = 8). (f, g) RT-qPCR analysis of matrix degradation enzymes and proinflammatory cytokines in NP cells overexpressing Nox4 (N = 4). NP cells were transfected with Nox4 vectors for Nox4 overexpression. □, P value < 0.05, error bars represent standard error. Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/29147462>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

Rodriguez-Berriguete G, Ranzani M, Prevo R et al. Small-Molecule Pol<sup>+</sup> Inhibitors Provide Safe and Effective Tumor Radiosensitization in Preclinical Models *Clinical Cancer Research* 2023-04-14 [PMID: 36689546] (ICC/IF)

Ma H, Yang F, York LR et al. Excessive Thyroid Hormone Signaling Induces Photoreceptor Degeneration in Mice *eNeuro* 2023-08-18 [PMID: 37596046] (ICC/IF, WB)

Marquez-Exposito L, Tejedor-Santamaria L, Santos-Sanchez L et al. Acute Kidney Injury is Aggravated in Aged Mice by the Exacerbation of Proinflammatory Processes *Frontiers in Pharmacology* 2021-06-22 [PMID: 34239439]

Eleftheriadis T, Pissas G, Goulinopoulos S et al. Routes of Albumin Overload Toxicity in Renal Tubular Epithelial Cells *International journal of molecular sciences* 2023-06-01 [PMID: 37298591] (WB, IHC-P, Mouse)

Suye S, Yin H, Zhou Z et al. Histological and transcriptomic analysis of Fance-deficient PGCs reveal the possible mechanisms of their depletion *Reproduction (Cambridge, England)* 2023-07-01 [PMID: 37184052]

Sun M, Wang T, Zhou Y et al. Pulmonary flora-modified diesel particulate matter induced lung injury via cGAS signaling pathway *The Science of the total environment* 2023-05-29 [PMID: 37257608]

Li X Endoplasmic reticulum stress sensor ATF6 as an immunometabolic modulator in hepatic tumorigenesis Thesis 2023-01-01 (IHC-P, Mouse)

Sperry M, Charrez B, Fotowat H et al. Identification of a pharmaceutical biostasis inducer that slows metabolism in multiple vertebrates that do not hibernate *bioRxiv* 2023-02-28 (ICC/IF)

Si B, Wang X, Liu Y et al. Multi-locus deletion mutation induced by silver nanoparticles: Role of lysosomal-autophagy dysfunction *Ecotoxicology and environmental safety* 2023-04-25 [PMID: 37105094] (WB, Human)

Eleftheriadis T, Pissas G, Filippidis G et al. Dapagliflozin Prevents High-Glucose-Induced Cellular Senescence in Renal Tubular Epithelial Cells *International journal of molecular sciences* 2022-12-17 [PMID: 36555751] (WB, Human)

Details:

Dilution used in WB 1:1000

Valentijn F, Knoppert S, Marquez-Exposito L et al. CCN2 aggravates acute DNA damage and the subsequent DDR-Senescence-Fibrosis sequence following renal ischemia-reperfusion injury *Kidney International* 2022-01-01 [PMID: 35921911] (WB, IHC-P, IHC-P, WB, Human, Mouse)

Details:

Dilution used 1:1000

Marquez-Exposito L, Tejedor-Santamaria L, Valentijn FA et al. Oxidative Stress and Cellular Senescence Are Involved in the Aging Kidney *Antioxidants (Basel, Switzerland)* 2022-01-31 [PMID: 35204184] (IHC-P, Mouse)

More publications at <http://www.novusbio.com/NB100-2280>



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### **Products Related to NB100-2280**

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

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### **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.

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