

# Product Datasheet

## FoxP3 Antibody - BSA Free

### NB100-39002SS

Unit Size: 0.025 ml

Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

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**NB100-39002SS**

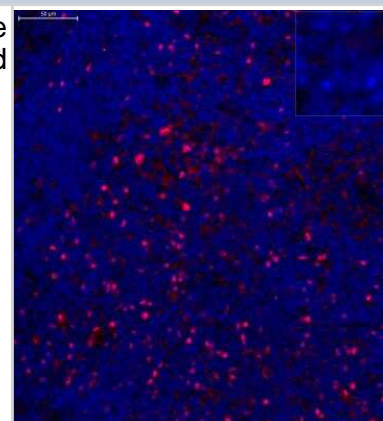
FoxP3 Antibody - BSA Free

Product Information	
Unit Size	0.025 ml
Concentration	1.0 mg/ml
Storage	Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.05% Sodium Azide
Isotype	IgG
Purity	Epitope affinity purified
Buffer	PBS
Product Description	
Host	Rabbit
Gene ID	50943
Gene Symbol	FOXP3
Species	Human, Mouse, Rat, Bovine
Reactivity Notes	This antibody shows reactivity against mouse CD4+CD25+T cells. There appears to be no reactivity against human Jurkat and mouse CD4+CD25-T cell lysates. Human reactivity reported in scientific literature (PMID: 23922187). Rat reactivity reported in scientific literature (PMID: 27758771). Bovine reactivity reported from a verified customer review.
Immunogen	A peptide corresponding to amino acids 43-100 of mouse FOXP3. [Swiss-Prot# Q99JB6]
Product Application Details	
Applications	Western Blot, Flow Cytometry, Immunoblotting, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Immunoprecipitation, Dual RNAscope ISH-IHC, Single Cell Western
Recommended Dilutions	Western Blot 1:2000, Flow Cytometry 1:8000, Immunohistochemistry 1:400, Immunocytochemistry/ Immunofluorescence 1:500, Immunoprecipitation, Immunohistochemistry-Paraffin 1:400. Use reported by customer review, Immunoblotting reported in scientific literature (PMID 26485285), Single Cell Western 100 ug/mL, Dual RNAscope ISH-IHC
Application Notes	Prior to immunostaining paraffin tissues, antigen retrieval with sodium citrate buffer (pH 6.0) is recommended. SCW is validating using FoxP3-transfected HEK293T cells.



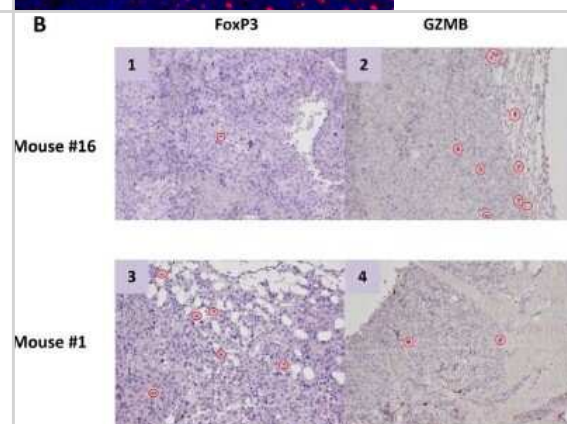
## Images

Immunohistochemistry-Paraffin: FoxP3 Antibody [NB100-39002] - Mouse spleen stained with FoxP3 antibody. IHC-P image submitted by a verified customer review.

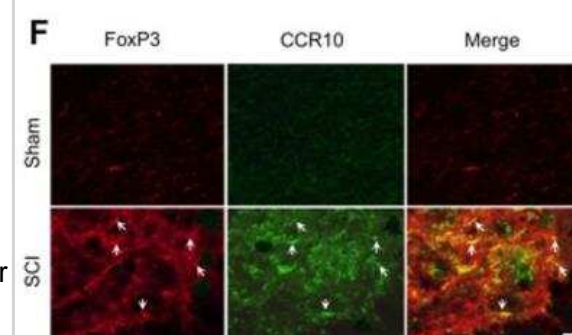


Immunohistochemistry-Paraffin: FoxP3 Antibody [NB100-39002] - Number of Granzyme B+ and FoxP3+ cells infiltrating tumors.

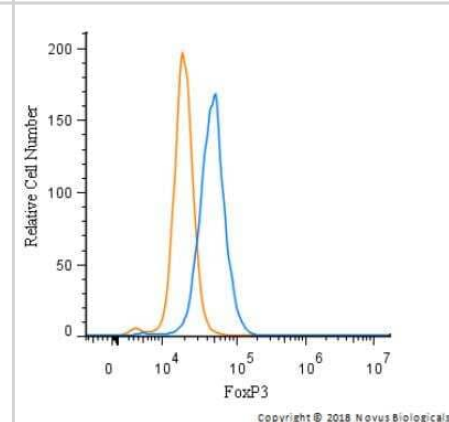
Representative images of IHC staining of FoxP3+ and Granzyme B+ cells in the peri-tumoral areas in two mice characterized by low FoxP3+ and high Granzyme B+ (panels 1 and 2) or high FoxP3+ and low Granzyme B+ (panels 3 and 4). Image collected and cropped by Citeab from the following publication (Inhibition of tumor growth by cancer vaccine combined with metronomic chemotherapy and anti-PD-1 in a pre-clinical setting. Oncotarget (2018) licensed under a CC-BY license.



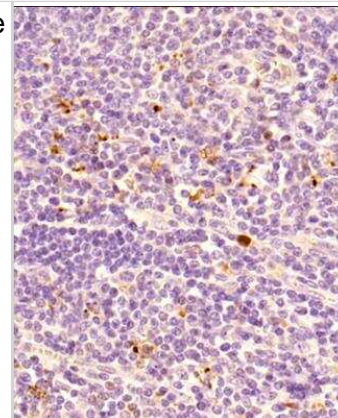
Immunohistochemistry: FoxP3 Antibody [NB100-39002] - CCR10-expressing CD4+CD25+FOXP3+ Treg cells are enriched in the spinal cord after SCI. Double immunostaining of FOXP3 (red) and CCR10 (green) in the spinal cord sections after sham or SCI surgery. The merged images are also shown. Arrows indicate cells with positive staining and colocalization. Scale bar, 100  $\mu$ m. Data are mean  $\pm$  SD. Image collected and cropped by Citeab from the following publication (CCL28 promotes locomotor recovery after spinal cord injury via recruiting regulatory T cells. Aging (Albany NY) (2019) licensed under a CC-BY license.



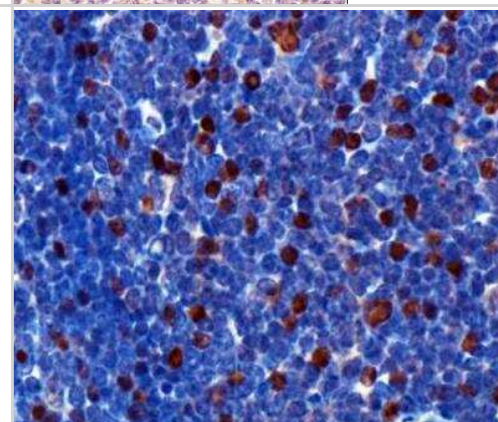
Flow Cytometry: FoxP3 Antibody [NB100-39002] - An intracellular stain was performed on SK-MEL-28 cells with NB100-39002 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 2.5  $\mu$ g/mL for 30 minutes at room temperature, followed by Rabbit IgG (H+L) Cross-Adsorbed Secondary Antibody.



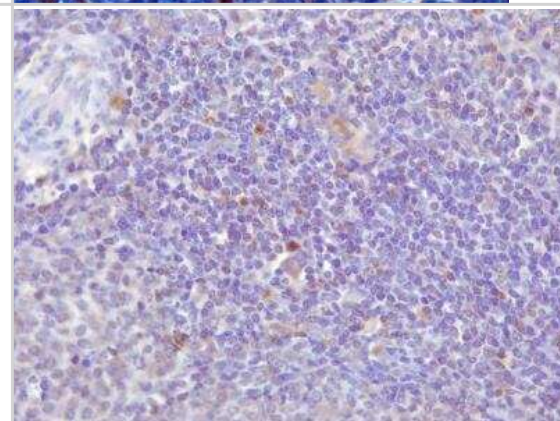
**Immunohistochemistry-Paraffin: FoxP3 Antibody [NB100-39002]** - Tissue section of human tonsil using 1:200 dilution of rabbit anti-FoxP3 antibody. The staining was developed with HRP-labeled anti-rabbit IgG secondary antibody and DAB reagent, and nuclei of cells were counter-stained with hematoxylin. This FoxP3 antibody generated an expected and a specific nuclear staining of FOXP3 in a subset of cells which are potentially the Treg cells.



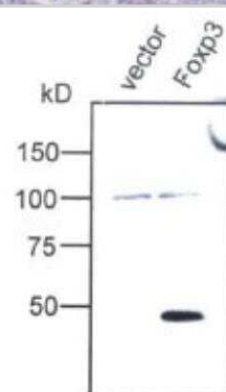
**Immunohistochemistry: FoxP3 Antibody [NB100-39002]** - Antibody was tested in mouse spleen using DAB with hematoxylin counterstain.



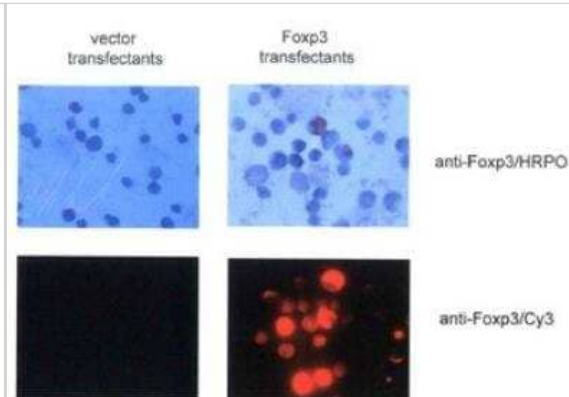
**Immunohistochemistry-Paraffin: FoxP3 Antibody [NB100-39002]** - FFPE bovine spleen tissue. Deparaffinization and antigen retrieval was carried out with PTlink from Dako, citrate buffer pH 6. Anti-Foxp3 antibody was used at a 1:100 dilution. Secondary reagent: Envision, from Dako. Staining: DAB and hematoxylin. IHC-P image submitted by a verified customer review.



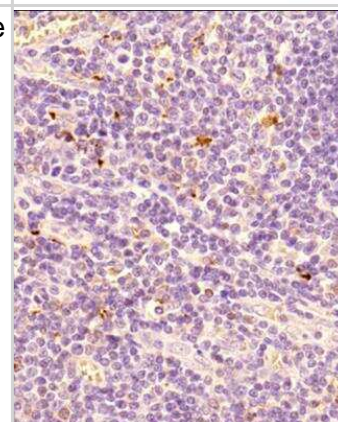
**Western Blot: FoxP3 Antibody [NB100-39002]** - Jurkat Tag cells were transfected with the expression vector (vector) or with the Foxp3 expression construct (Foxp3). 24 hours after transfection, cells were lysed and analyzed by Western blot with anti-Foxp3 antiserum (1:2000 dilution).



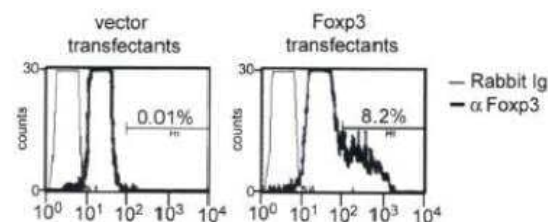
**Immunocytochemistry/Immunofluorescence: FoxP3 Antibody [NB100-39002]** - Transfectants were stained with anti-Foxp3 antibody and HRP-conjugated (upper panel) or Cy3-conjugated (lower panels) secondary antibody. Representative images (x100) are shown.



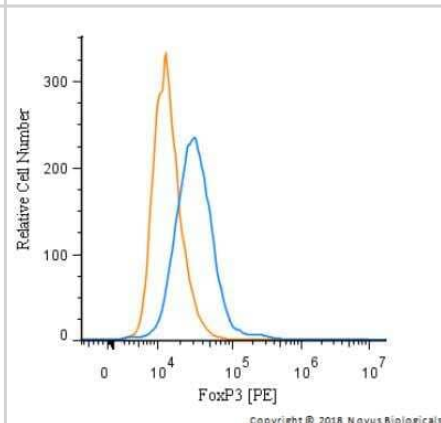
**Immunohistochemistry-Paraffin: FoxP3 Antibody [NB100-39002]** - Tissue section of human tonsil using 1:200 dilution of rabbit anti-FoxP3 antibody. The staining was developed with HRP-labeled anti-rabbit IgG secondary antibody and DAB reagent, and nuclei of cells were counterstained with hematoxylin. This FoxP3 antibody generated an expected and a specific nuclear staining of FOXP3 in a subset of cells which are potentially the Treg cells.



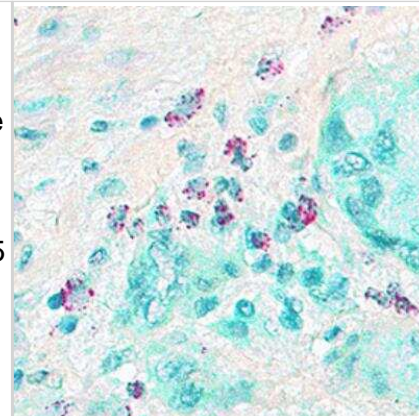
**Flow Cytometry: FoxP3 Antibody [NB100-39002]** - Transfectants were permeabilized and stained with anti-Foxp3 antibody and FITC-conjugated secondary antibody. Cells were analyzed by flow cytometry. Percentage of positively stained cells are shown.



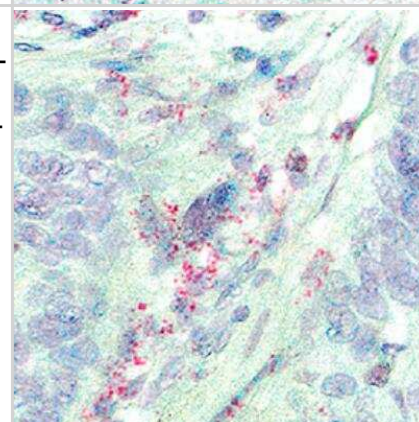
**Flow Cytometry: FoxP3 Antibody [NB100-39002]** - An intracellular stain was performed on MCF7 cells with FoxP3 Antibody NB100-39002PE (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Phycoerythrin.



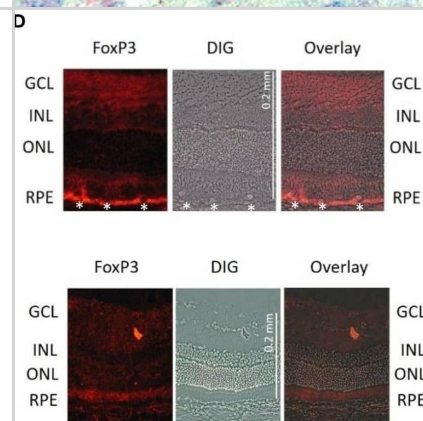
Dual RNAscope ISH-IHC: FoxP3 Antibody [NB100-39002] - CD8A mRNA (red) and FOXP3 protein (green) were detected in formalin-fixed paraffin-embedded tissue sections of human breast cancer. ACD's Integrated Co-Detection Workflow was performed using ACD RNAscope Probe Hs-CD8A and FoxP3 antibody at 1:400 dilution. Tissue was stained on Leica Bond RX using RNAscope (TM) 2.5 LS Reagent Kit-RED, BOND Polymer Refine Detection (DAB) and Hematoxylin, BOND Polymer Refine Red Detection and Hematoxylin and RNAscope (TM) 2.5 LS Green Accessory Pack. Tissue was counterstained with 50% hematoxylin (blue).



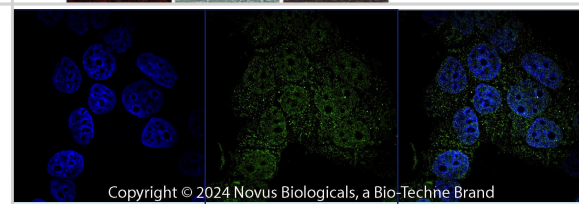
Dual RNAscope ISH-IHC: FoxP3 Antibody [NB100-39002] - CD4 mRNA (red) and FOXP3 protein (green) were detected in formalin-fixed paraffin-embedded tissue sections of human breast cancer. ACD's Integrated Co-Detection Workflow was performed using ACD RNAscope Probe Hs-CD4 and FOXP3 antibody at 1:200 dilution. Tissue was stained on Leica Bond RX using RNAscope (TM) 2.5 LS Reagent Kit-RED, BOND Polymer Refine Detection (DAB) and Hematoxylin, BOND Polymer Refine Red Detection and Hematoxylin and RNAscope (TM) 2.5 LS Green Accessory Pack. Tissue was counterstained with 50% hematoxylin (blue).



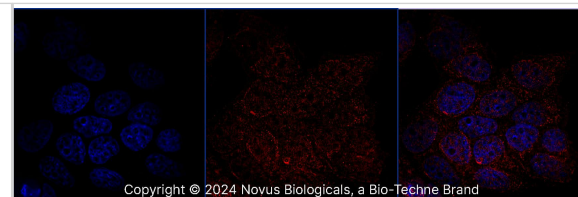
Effects of anaphylatoxins on transcription factor phosphorylation in ARPE-19 cells.(D) Immunofluorescence staining of FoxP3. Upper panel: Lewis rat (albino) eye with experimental uveitis; lower panel: normal rat eye. Asterisks mark immune cells infiltrating the retina from the choroid through the retinal pigment epithelium (RPE) in the eye with uveitis (clinical score of 2, histological score of 1).



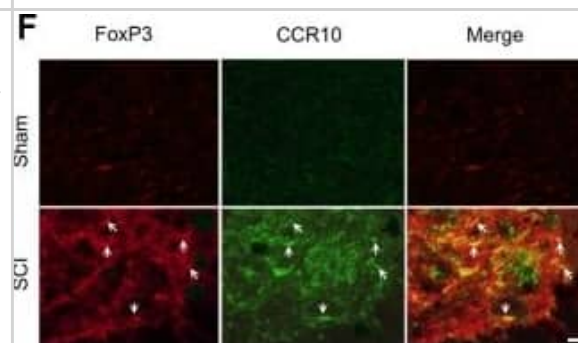
FoxP3 was detected in immersion fixed MCF7 human breast cancer cell line using Rabbit anti-FoxP3 Affinity Purified Polyclonal Antibody conjugated to DyLight 488 (Catalog # NB100-39002G) (green) at 10 µg/mL overnight at 4°C. Cells were stained counterstained with DAPI (blue). Cells were imaged using a 100X objective and digitally deconvolved.



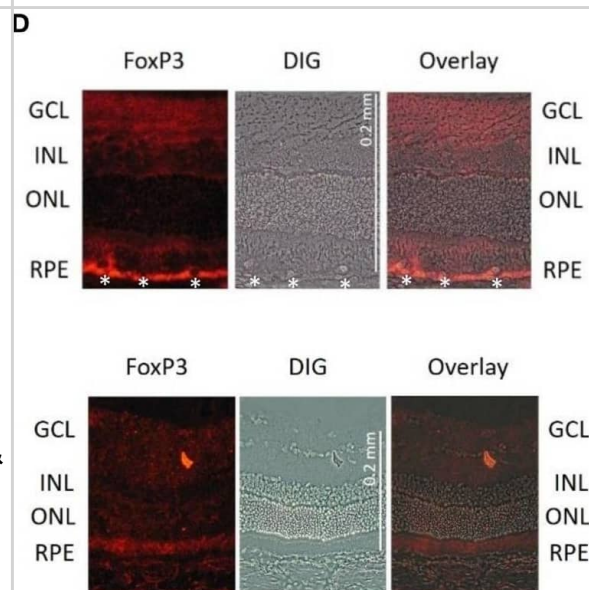
FoxP3 was detected in immersion fixed MCF7 human breast cancer cell line using Rabbit anti-FoxP3 Affinity Purified Polyclonal Antibody conjugated to DyLight 550 (Catalog # NB100-39002R) (red) at 10 µg/mL overnight at 4°C. Cells were stained counterstained with DAPI (blue). Cells were imaged using a 100X objective and digitally deconvolved.



**Immunocytochemistry/ Immunofluorescence: FoxP3 Antibody - BSA Free [NB100-39002] - CCR10-expressing CD4+CD25+FOXP3+ Treg cells are enriched in the spinal cord after SCI.** (A, B) Representative flow cytometry dot plots (A) & percentage (B) of CD4+CD25+FOXP3+ cells among the CD4+ T cells in the spinal cord after sham or SCI surgery. Cells were gated on 7-AAD negative population & the numbers inside plots refer to % Treg cells (n=5). (C, D) Representative histogram of CCR10 (C) & CCR3 (D) expression in CD4+CD25+FOXP3+ cells as gated in (A). (E) CD4+CD25+FOXP3+ cells in the spinal cord from sham & SCI mice were sorted out & analyzed by Western blotting to detect the expression of CCR10 & CCR3. GAPDH was used as a loading control. (F) Double immunostaining of FOXP3 (red) & CCR10 (green) in the spinal cord sections after sham or SCI surgery. The merged images are also shown. Arrows indicate cells with positive staining & colocalization. Scale bar, 100 µm. Data are mean ± SD. The statistical analysis was performed using Student's t-test. \*\*, P<0.01. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/31557129>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



**Immunocytochemistry/ Immunofluorescence: FoxP3 Antibody - BSA Free [NB100-39002] - Effects of anaphylatoxins on transcription factor phosphorylation in ARPE-19 cells.** (A–C) Protein phosphorylation of (A) CREB (Ser133); (B) FoxP3 (Ser418); & (C) FOXO1 (Ser256) was examined in ARPE-19 cells treated with C3a, C5a, or the combination of C3a/C5a at 1, 5, 10, & 15 min. Phosphorylation levels were normalized to β-actin (relative p-protein levels), & slopes of the time course were determined. Anaphylatoxins were applied at concentrations of 300 nM (C3a) & 50 nM (C5a). Data are mean + SEM, n = 3, \*p < 0.05, \*\*\*p < 0.001 (Student's t-test). (D) Immunofluorescence staining of FoxP3. Upper panel: Lewis rat (albino) eye with experimental uveitis; lower panel: normal rat eye. Asterisks mark immune cells infiltrating the retina from the choroid through the retinal pigment epithelium (RPE) in the eye with uveitis (clinical score of 2, histological score of 1). Image collected & cropped by CiteAb from the following publication (<http://journal.frontiersin.org/article/10.3389/fimmu.2017.00703/full>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

Athina Varveri, Miranta Papadopoulou, Zacharias Papadovasilakis, Ewoud B. Compeer, Aigli-Ioanna Legaki, Anastasios Delis, Vasileia Damaskou, Louis Boon, Sevasti Papadogiorgaki, Martina Samiotaki, Periklis G. Foukas, Aristides G. Eliopoulos, Aikaterini Hatzioannou, Themis Alissafi, Michael L. Dustin, Panayotis Verginis Immunological synapse formation between T regulatory cells and cancer-associated fibroblasts promotes tumour development Nature Communications 2024-06-11 [PMID: 38862534]

David A. Murphy, Daniela Osteicochea, Aidan Atkins, Caitlin Sannes, Zachary McClarnon, Isaac M. Adjei Optimizing Oxygen-Production Kinetics of Manganese Dioxide Nanoparticles Improves Hypoxia Reversal and Survival in Mice with Bone Metastases Molecular Pharmaceutics 2024-02-16 [PMID: 38365202]

Lin Xu, Joshua L Pierce, Angelica Sanchez, Kenneth S Chen, Abhay A Shukla, Nicholas J Fustino, Sarai H Stuart, Aditya Bagrodia, Xue Xiao, Lei Guo, Mark D Krailo, Furqan Shaikh, Deborah F Billmire, Farzana Pashankar, Jessica Bestrashniy, J Wolter Oosterhuis, Ad J M Gillis, Yang Xie, Lisa Teot, Jaume Mora, Jenny N Poynter, Dinesh Rakheja, Leendert H J Looijenga, Bruce W Draper, A Lindsay Frazier, James F Amatruda Integrated genomic analysis reveals aberrations in WNT signaling in germ cell tumors of childhood and adolescence. Nature communications 2023-05-08 [PMID: 37149691]

Daniil Nozdriukhin, Sandeep Kumar Kalva, Cagla Özsoy, Michael Reiss, Weiye Li, Daniel Razansky, Xosé Luís Deán-Ben Multi-Scale Volumetric Dynamic Optoacoustic and Laser Ultrasound (OPLUS) Imaging Enabled by Semi-Transparent Optical Guidance. Advanced science (Weinheim, Baden-Wurttemberg, Germany) 2023-12-20 [PMID: 38115760]

Kelsey G DeFrates, Elaine Tong, Jing Cheng, Ellen Heber-Katz, Phillip B Messersmith A Pro-Regenerative Supramolecular Prodrug Protects Against and Repairs Colon Damage in Experimental Colitis. Advanced science (Weinheim, Baden-Wurttemberg, Germany) 2024-01-21 [PMID: 38247203]

Yu Sato, Hiroshi Noguchi, Shinsuke Kubo, Keizo Kaku, Yasuhiro Okabe, Hideya Onishi, Masafumi Nakamura Modulation of allograft immune responses by Porphyromonas gingivalis lipopolysaccharide administration in a rat model of kidney transplantation Scientific Reports 2024-06-17 [PMID: 38886503]

Niaz Mahmood, Ani Arakelian, Moshe Szyf, Shafaat A. Rabbani Methyl-CpG binding domain protein 2 (Mbd2) drives breast cancer progression through the modulation of epithelial-to-mesenchymal transition Experimental & Molecular Medicine 2024-04-01 [PMID: 38556549]

Yeong Song J, Guk Han M, Kim Y et al. Combination of local radiotherapy and anti-glucocorticoid-induced tumor necrosis factor receptor (GITR) therapy augments PD-L1 blockade-mediated anti-tumor effects in murine breast cancer model Radiotherapy and Oncology 2023-11-01 [PMID: 37925106] (Immunohistochemistry-Paraffin, Mouse)

Pu S, Yang Z, Zhang X et al. Fermented cordyceps powder alleviates silica-induced pulmonary inflammation and fibrosis in rats by regulating the Th immune response Chinese medicine 2023-10-12 [PMID: 37828528] (IHC, Rat)

Cho KH, Na HS, Jhun J et al. Lactobacillus (LA-1) and butyrate inhibit osteoarthritis by controlling autophagy and inflammatory cell death of chondrocytes Frontiers in Immunology 2022-10-17 [PMID: 36325344] (Immunohistochemistry)

Saadati F, Moritz J, Berner J et al. Patient-Derived Human Basal and Cutaneous Squamous Cell Carcinoma Tissues Display Apoptosis and Immunomodulation following Gas Plasma Exposure with a Certified Argon Jet International Journal of Molecular Sciences 2021-10-23 [PMID: 34768877]

Ahmed MM, Hegazy AA, Embaby A et al. TOX Outperforms FOXP3, CD4 and GATA3 in Histopathological Diagnosis of Early Mycosis Fungoides Turkish Journal of Pathology 2023-01-15 [PMID: 35642346] (Immunohistochemistry, Immunohistochemistry-Paraffin)

More publications at <http://www.novusbio.com/NB100-39002>





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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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