Product Datasheet

Nanog Antibody - BSA Free
NB100-58842

Unit Size: 0.1 ml

Store at 4C. Do not freeze.

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NB100-58842

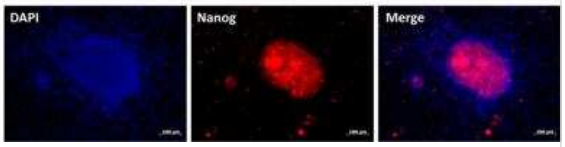
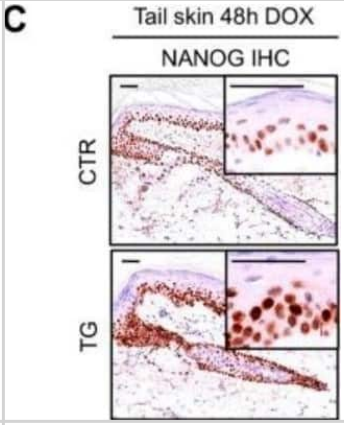
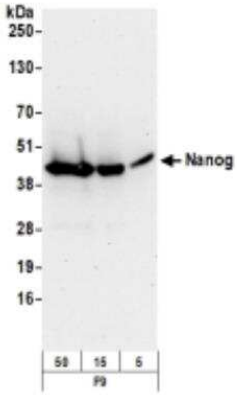
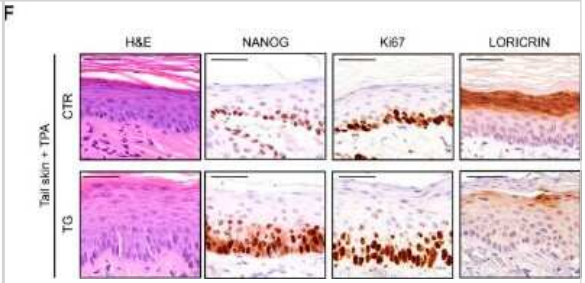
Nanog Antibody - BSA Free

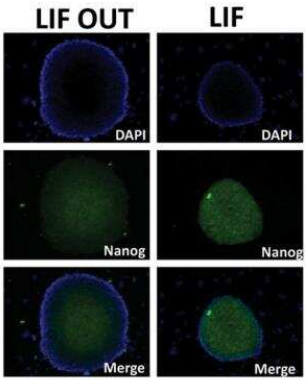
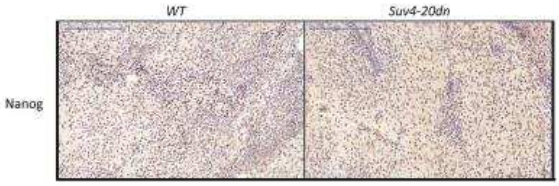
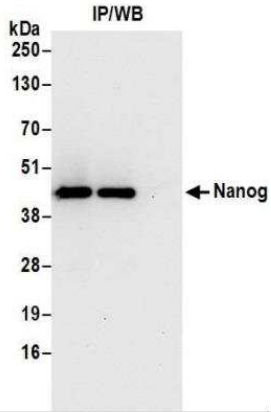
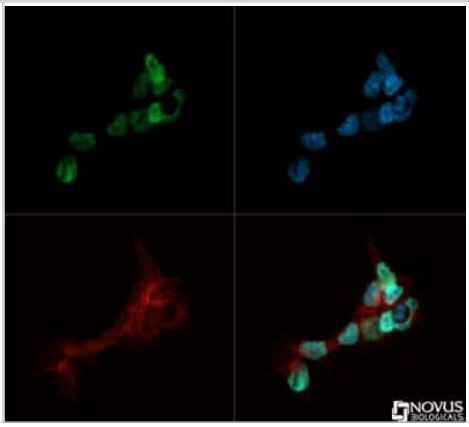
Product Information	
Unit Size	0.1 ml
Concentration	1.0 mg/ml
Storage	Store at 4C. Do not freeze.
Clonality	Polyclonal
Preservative	0.09% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	Tris-Citrate/Phosphate (pH 7.0 - 8.0)

Product Description	
Description	Novus Biologicals Knockout (KO) Validated Rabbit Nanog Antibody - BSA Free (NB100-58842) is a polyclonal antibody validated for use in IHC, WB, Flow, ICC/IF, IP and ChIP. Anti-Nanog Antibody: Cited in 62 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Rabbit
Gene ID	79923
Gene Symbol	NANOG
Species	Human, Mouse
Marker	Embryonic Stem Cell Marker
Immunogen	A synthetic peptide made to the mouse Nanog protein (within residues 1-50). [Swiss-Prot Q80Z64]

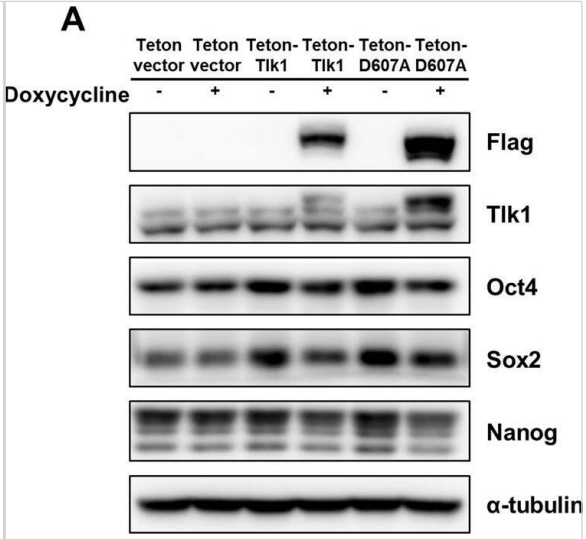
Product Application Details	
Applications	Western Blot, Immunohistochemistry-Paraffin, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunoprecipitation, Chromatin Immunoprecipitation (ChIP), Knockout Validated
Recommended Dilutions	Western Blot 1:5000-1:15000, Flow Cytometry 1:10-1:1000, Immunohistochemistry 1:10-1:500, Immunocytochemistry/ Immunofluorescence 1:250-1:1000, Immunoprecipitation 2-5 mcg/mg lysate, Immunohistochemistry-Paraffin 1:100-1:500, Chromatin Immunoprecipitation (ChIP) 1:10-1:500, Knockout Validated
Application Notes	Prior to immunostaining paraffin tissues, antigen retrieval with Tris-EDTA (pH 9.0) is recommended. Use in Chromatin Immunoprecipitation and Flow Cytometry were reported in scientific publication (PMID: 23735977). IHC-P was reported in scientific publication (PMID: 25988972).

Images

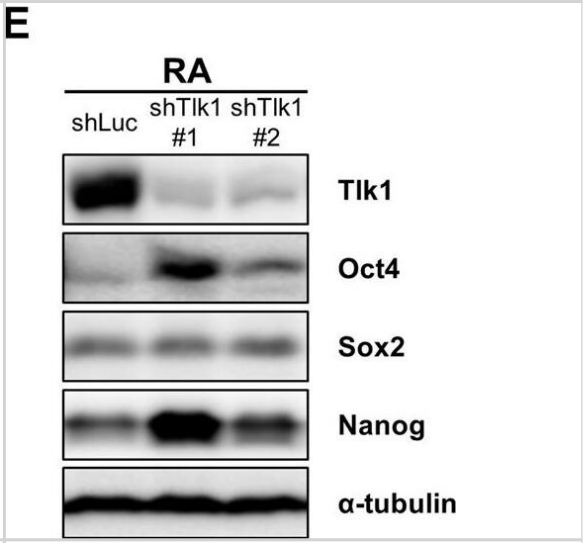
Immunocytochemistry/Immunofluorescence: Nanog Antibody [NB100-58842] - The stem cell marker (Nanog) staining of iPS-BP cells. Nuclei were stained with DAPI (blue). Image collected and cropped by CiteAb from the following publication (//doi.org/10.1371/journal.pone.0044024) licensed under a CC-BY license.	
Immunohistochemistry-Paraffin: Nanog Antibody [NB100-58842] - Nanog-inducible mouse model. Immunohistochemistry (IHC) for NANOG of paraffin-embedded sections of tail skin from CTR and TG mice treated as indicated in (B). Two magnifications are shown for each tissue (bars correspond to 50 um). Image collected and cropped by CiteAb from the following publication (https://www.nature.com/articles/srep10205), licensed under a CC-BY license.	
Western Blot: Nanog Antibody [NB100-58842] - Whole cell lysate (5, 15, and 50 ug) from F9 cells prepared using NETN lysis buffer. Antibodies: Affinity purified rabbit anti-Nanog antibody used for WB at 0.5 ug/ml. Detection: Chemiluminescence with an exposure time of 30 seconds.	
Immunohistochemistry-Paraffin: Nanog Antibody [NB100-58842] - Nanog-inducible mouse model. Representative hematoxylin and eosin (H&E) staining and immunohistochemistry (IHC) for NANOG, Ki67 and LORICRIN of TPA-treated CTR and TG mice (bars correspond to 50 um). Statistical significance was determined by the two-tailed Student's t test: (*) $p < 0.05$; (**) $p < 0.01$. Image collected and cropped by CiteAb from the following publication (https://www.nature.com/articles/srep10205), licensed under a CC-BY license.	

Immunocytochemistry/Immunofluorescence: Nanog Antibody [NB100-58842] - Nanog staining in ES cells treatment with leukemia inhibitory factor (LIF). Image collected and cropped by CiteAb from the following publication (//doi.org/10.1371/journal.pone.0044024) licensed under a CC-BY license.	
Immunohistochemistry: Nanog Antibody [NB100-58842] - Differentiation of wt and Suv4-20dn teratomas. Representative images of Nanog staining in wt and Suv4-20dn teratomas. Scale bar, 200 um. Image collected and cropped by CiteAb from the following publication (//doi.org/10.1371/journal.pone.0025680) licensed under a CC-BY license.	
Immunoprecipitation: Nanog Antibody [NB100-58842] - Samples: Whole cell lysate (0.5 or 1.0 mg per IP reaction; 20% of IP loaded) from F9 cells prepared using NETN lysis buffer. Antibodies: Affinity purified rabbit anti-Nanog antibody used for IP at 6 ug per reaction. Nanog was also immunoprecipitated by rabbit anti-Nanog antibody. For blotting immunoprecipitated Nanog, this was used at 1 ug/ml. Detection: Chemiluminescence with an exposure time of 10 seconds.	
Immunocytochemistry/Immunofluorescence: Nanog Antibody [NB100-58842] - Nanog antibody was tested in DGCR8 knockout Mouse embryonic stem cells (NBA1-19349) with DyLight 488 (green). Nuclei and alpha-tubulin were counterstained with DAPI (blue) and DyLight 550 (red).	

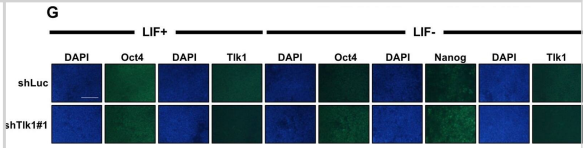
Western Blot: Nanog Antibody [NB100-58842] - The forced expression of Tlk1 results in the aberrant downregulation of core pluripotency factors & attenuates self-renewal. (A) Immunoblot analysis of Oct4, Sox2, & Nanog levels in control mESCs (empty vector or doxycycline depletion) & Tlk1-overexpressing mESCs. The mESCs expressing an empty vector or the Tet-On-Tlk1 or Tet-On-Tlk1-D607A expression vector were cultured in the absence or presence of doxycycline (Dox; 100 ng/ml) for 24 hrs under undifferentiated self-renewal conditions. (B) Quantification of results from (A). The protein levels of the target genes were normalized to α-tubulin levels. The protein expression levels of each mESC line not treated with doxycycline were normalized to 1. The biological data are presented as mean (n = 6) ± SEM. *P < 0.05, & **P < 0.01. (C) The morphology & AP staining of Tet-On-inducible Tlk1-expressing cell lines cultured in mock (Dox−) or doxycycline (Dox+) for 48 hrs. Scale bar, 500 µm. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/29321513), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

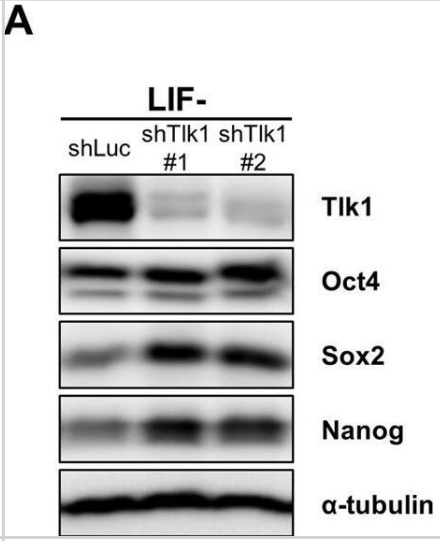
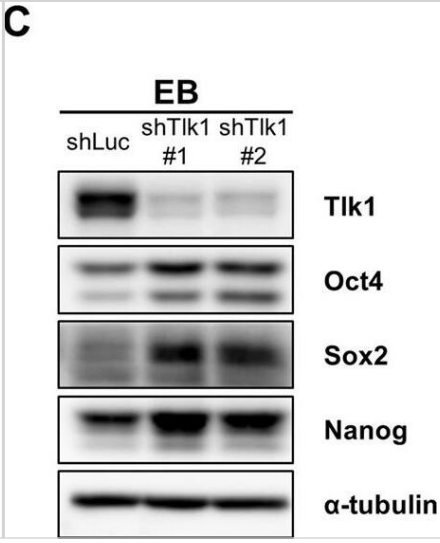


Western Blot: Nanog Antibody [NB100-58842] - Tlk1-deficiency in mESCs causes a delay in the downregulation of core pluripotency factors upon differentiation. (A,C & E) Representative immunoblotting images showing Tlk1, Oct4, Sox2, & Nanog levels in Tlk1-KD cells upon differentiation. Differentiation was induced three different ways as previously described in Fig. 3. Alpha-tubulin was used as the loading control. (B,D & F) Quantification of the relative expression of the target proteins in panels (A,C, & E). The target proteins levels were normalized to that of α-tubulin. The protein expression levels of shLuc KD cells were normalized to 1. The biological data are presented as mean (n = 4) ± SEM for LIF- & EB & for RA (n = 3). *P < 0.05, **P < 0.01, & ***P < 0.001. (G) Immunofluorescence analysis of Oct4, Nanog & Tlk1 in control (shLuc) & Tlk1-deficient mESCs. Scale bars represent 100 µm. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/29321513), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Immunocytochemistry/ Immunofluorescence: Nanog Antibody [NB100-58842] - Tlk1-deficiency in mESCs causes a delay in the downregulation of core pluripotency factors upon differentiation. (A,C & E) Representative immunoblotting images showing Tlk1, Oct4, Sox2, & Nanog levels in Tlk1-KD cells upon differentiation. Differentiation was induced three different ways as previously described in Fig. 3. Alpha-tubulin was used as the loading control. (B,D & F) Quantification of the relative expression of the target proteins in panels (A,C, & E). The target proteins levels were normalized to that of α-tubulin. The protein expression levels of shLuc KD cells were normalized to 1. The biological data are presented as mean (n = 4) ± SEM for LIF- & EB & for RA (n = 3). *P < 0.05, **P < 0.01, & ***P < 0.001. (G) Immunofluorescence analysis of Oct4, Nanog & Tlk1 in control (shLuc) & Tlk1-deficient mESCs. Scale bars represent 100 µm. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/29321513), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: Nanog Antibody [NB100-58842] - Tlk1 is not required for mESC self-renewal or pluripotency. (A) The efficiency of Tlk1 knockdown (KD) in control (shLuc) & Tlk1-KD mESCs (shTlk1 #1 & #2) was confirmed by RT-qPCR analysis. Data are mean (n = 3) ± SEM. **P < 0.01 & ***P < 0.001. (B) The morphology of control (shLuc) & Tlk1-KD (shTlk1 #1 & #2) mESCs was evaluated using phase-contrast microscopic images & AP staining. Scale bars represent 500 µm. (C & D) The mRNA expression of pluripotency-associated & development-associated genes were analyzed by RT-qPCR in control (shLuc) & Tlk1-KD (shTlk1 #1 & #2) mESCs cultured under undifferentiated self-renewal conditions. All data were normalized to Gapdh & plotted relative to the expression level in control cells. Data are means (n = 3) ± SEM. *P < 0.05, **P < 0.01, & ***P < 0.001. (E) The protein levels of pluripotency factors in control (shLuc) & Tlk1-KD (shTlk1 #1 & #2) mESCs was analyzed by immunoblotting using antibodies specific to Oct4, Sox2, & Nanog. (F) Quantification based on densitometry of Western blotting data from (E). All data were normalized to α-tubulin. Data are means (n = 3) ± SEM. *P < 0.05, **P < 0.01, & ***P < 0.001. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/29321513), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	
Western Blot: Nanog Antibody [NB100-58842] - Tlk1-deficiency in mESCs causes a delay in the downregulation of core pluripotency factors upon differentiation. (A,C & E) Representative immunoblotting images showing Tlk1, Oct4, Sox2, & Nanog levels in Tlk1-KD cells upon differentiation. Differentiation was induced three different ways as previously described in Fig. 3. Alpha-tubulin was used as the loading control. (B,D & F) Quantification of the relative expression of the target proteins in panels (A,C, & E). The target proteins levels were normalized to that of α-tubulin. The protein expression levels of shLuc KD cells were normalized to 1. The biological data are presented as mean (n = 4) ± SEM for LIF- & EB & for RA (n = 3). *P < 0.05, **P < 0.01, & ***P < 0.001. (G) Immunofluorescence analysis of Oct4, Nanog & Tlk1 in control (shLuc) & Tlk1-deficient mESCs. Scale bars represent 100 µm. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/29321513), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	
Western Blot: Nanog Antibody [NB100-58842] - Tlk1-deficiency in mESCs causes a delay in the downregulation of core pluripotency factors upon differentiation. (A,C & E) Representative immunoblotting images showing Tlk1, Oct4, Sox2, & Nanog levels in Tlk1-KD cells upon differentiation. Differentiation was induced three different ways as previously described in Fig. 3. Alpha-tubulin was used as the loading control. (B,D & F) Quantification of the relative expression of the target proteins in panels (A,C, & E). The target proteins levels were normalized to that of α-tubulin. The protein expression levels of shLuc KD cells were normalized to 1. The biological data are presented as mean (n = 4) ± SEM for LIF- & EB & for RA (n = 3). *P < 0.05, **P < 0.01, & ***P < 0.001. (G) Immunofluorescence analysis of Oct4, Nanog & Tlk1 in control (shLuc) & Tlk1-deficient mESCs. Scale bars represent 100 µm. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/29321513), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	

Publications

Yao M, Pan Y, Ren T et al. Loss of Dip2b leads to abnormal neural differentiation from mESCs Stem Cell Res Ther 2023-09-13 [PMID: 37705068]

Kim J, Muraoka M, Okada H et al. The RNA helicase DDX6 controls early mouse embryogenesis by repressing aberrant inhibition of BMP signaling through miRNA-mediated gene silencing PLOS Genetics 2022-10-05 [PMID: 36197846]

Shen YR, Zaballa S, Bech X, Sancho-Balsells A et Al. Expansion of the neocortex and protection from neurodegeneration by in vivo transient reprogramming Cell Stem Cell 2024-10-19 [PMID: 39426381]

Yao M, Yang Q, Lian M, Su P et Al. Generation of Dip2a homozygous knockout murine ES cell line IBMSe001-A-1 via CRISPR/Cas9 technology Stem Cell Res 2020-05-04 [PMID: 32361465]

Gao Y, Tan DS, Girbig M et Al. The emergence of Sox and POU transcription factors predates the origins of animal stem cells Nat Commun 2024-11-15 [PMID: 39543096]

Kim B, Zhang S, Huang Y et Al. CRACD loss induces neuroendocrine cell plasticity of lung adenocarcinoma Cell Rep 2024-07-02 [PMID: 38796854]

Chen R, Su F, Zhang T et Al. N6-methyladenosine modification of B7-H3 mRNA promotes the development and progression of colorectal cancer iScience 2024-01-18 [PMID: 38318386]

Filidou E, Kandilogiannakis L, Tarapatzi G et al. A Simplified and Effective Approach for the Isolation of Small Pluripotent Stem Cells Derived from Human Peripheral Blood Biomedicines 2023-03-05 [PMID: 36979766] (Immunocytochemistry/ Immunofluorescence, Human)

Ma Z, Zhang F, Xiong J et al. Activation of embryonic/germ cell-like axis links poor outcomes of gliomas Cancer cell international 2022-11-26 [PMID: 36435765] (ICC/IF, Human)

Ma Y, Sun W, Zhao L et al. Generation of an mESC model with a human hemophilia B nonsense mutation via CRISPR/Cas9 technology Stem cell research & therapy 2022-07-26 [PMID: 35883203] (ICC, Mouse)

Zhou H, Sun H, Rong Z, Cui W Generation of Mt3 Homozygote murine ES cell lines via CRISPR/Cas9 technology Stem cell research 2022-02-18 [PMID: 35217495] (ICC/IF, Mouse)

Srivastava, Y, Tan, D S Et al. Cancer-associated missense mutations enhance the pluripotency reprogramming activity of OCT4 and SOX17. FEBS J 2020-01-01 [PMID: 31569299] (IF/IHC, WB, Human)

More publications at http://www.novusbio.com/NB100-58842

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NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

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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