Product Datasheet

DEC1 Antibody - BSA Free
NB100-1800

Unit Size: 0.1 ml

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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Reviews: 2 Publications: 46

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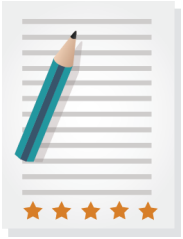
Updated 4/13/2025 v.20.1



NB100-1800

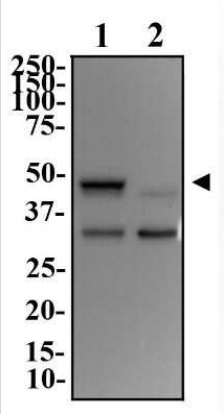
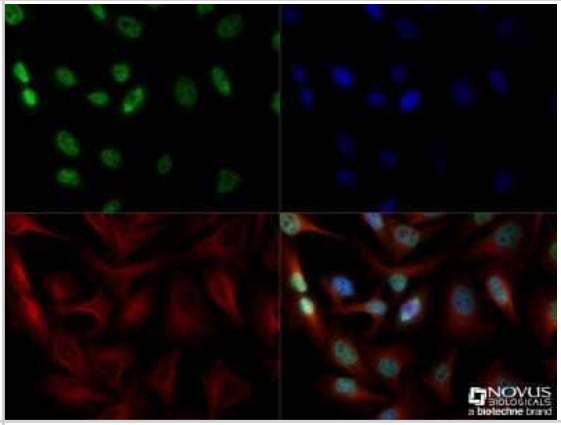
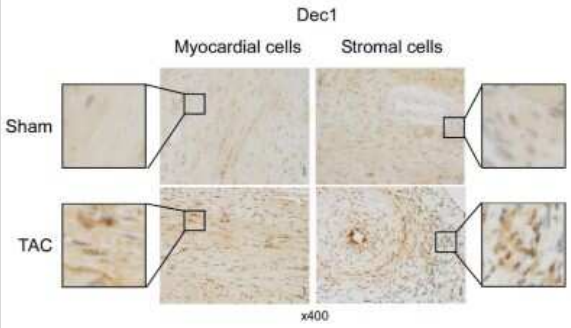
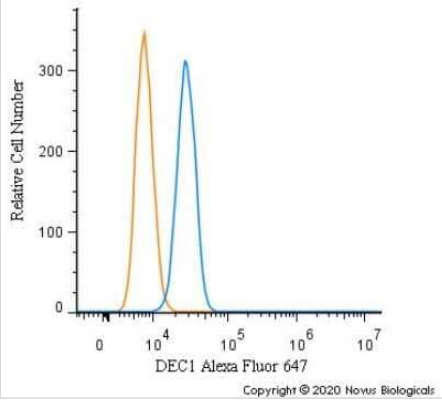
DEC1 Antibody - BSA Free

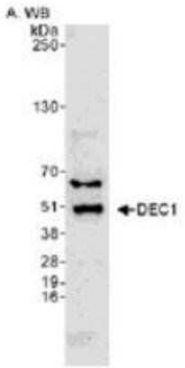
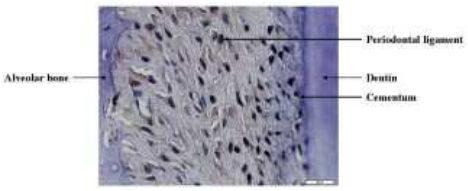
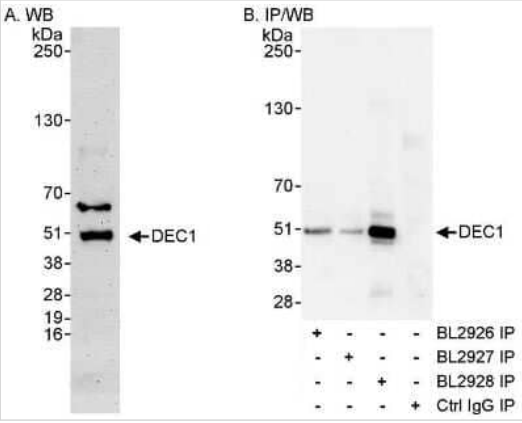
Product Information	
Unit Size	0.1 ml
Concentration	1 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS
Target Molecular Weight	46 kDa

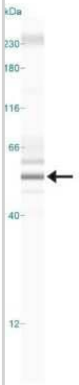
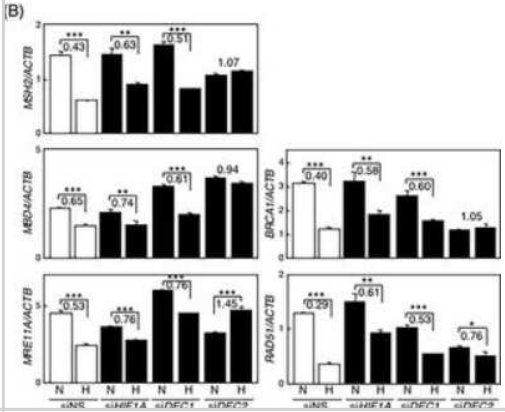
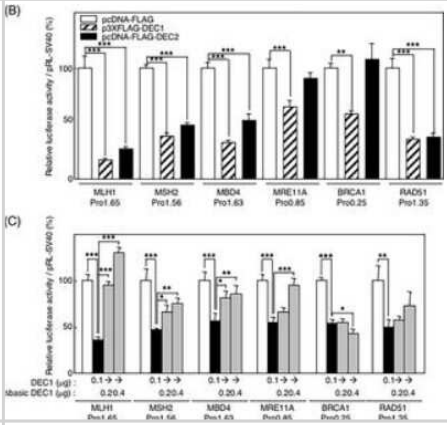
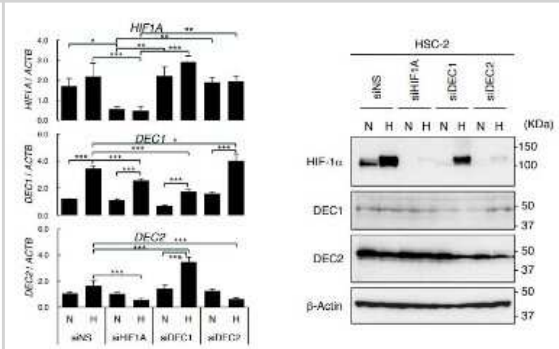
Product Description	
Host	Rabbit
Gene ID	8553
Gene Symbol	BHLHE40
Species	Human, Mouse, Rat
Reactivity Notes	Mouse reactivity reported in scientific literature (PMID: 26834156).
Immunogen	Synthetic peptide made to a C-terminal region of human DEC1 (between amino acids 350-412) [UniProt O14503]

Product Application Details	
Applications	Western Blot, Simple Western, Chromatin Immunoprecipitation, ELISA, Flow Cytometry, Immunoblotting, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Immunoprecipitation, Chromatin Immunoprecipitation (ChIP), Chromatin Immunoprecipitation Sequencing, Knockdown Validated
Recommended Dilutions	Western Blot 1:500-1:1500, Simple Western 1:50, Chromatin Immunoprecipitation reported in scientific literature (PMID 29715265), Flow Cytometry 2-5 ug/ml, ELISA reported in scientific literature (PMID 31061528), Immunohistochemistry 1:200 - 1:500, Immunocytochemistry/ Immunofluorescence 1:500 - 1:1000, Immunoprecipitation, Immunohistochemistry-Paraffin 1:200 - 1:500, Immunoblotting 1:500-1:1500, Chromatin Immunoprecipitation (ChIP) reported in scientific literature (PMID 31061528), Chromatin Immunoprecipitation Sequencing reported in scientific literature (PMID 31061528), Knockdown Validated
Application Notes	In Western Blot, a band is seen approx. 49 kDa. In ICC/IF punctate nuclear staining is observed. In Simple Western only 10 - 15 uL of the recommended dilution is used per data point. See Simple Western Antibody Database for Simple Western validation: separated by Size, antibody dilution of 1:50. Separated by Size-Wes, Sally Sue/Peggy Sue.

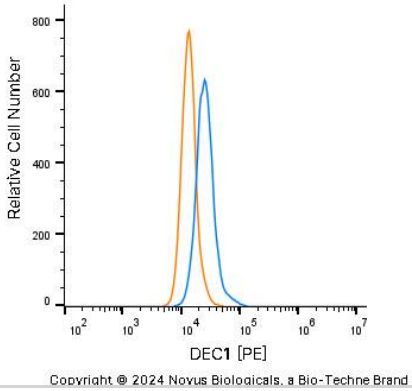
Images

Western Blot: DEC1 Antibody - BSA Free [NB100-1800] - Western Blot Image of anti-DEC1. Whole cell protein from A431 (lane 1) and PC3 (lane 2) was separated on a 12% gel by SDS-PAGE, transferred to PVDF membrane and blocked in 5% non-fat milk in TBST. The membrane was probed with 2 ug/ml anti-DEC1 in 1% milk, and detected with an anti-rabbit HRP secondary antibody using chemiluminescence.	
Immunocytochemistry/Immunofluorescence: DEC1 Antibody - BSA Free [NB100-1800] - HeLa cells were fixed for 10 minutes using 10% formalin and then permeabilized for 5 minutes using 1X TBS + 0.5% Triton-X100. The cells were incubated with anti-DEC1 (NB100-1800) at a 1:200 dilution overnight at 4C and detected with and anti-rabbit Dylight 488 (Green) at a 1:500 dilution. Alpha tubulin was used as a co-stain at a 1:1000 dilution and detected with and anti-mouse Dylight 550 (Red) at a 1:500 dilution. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 40X objective.	
Immunohistochemistry: DEC1 Antibody - BSA Free [NB100-1800] - Immunohistochemical detection of DEC1 in myocardial and stromal cells. Representative images of one WT heart treated with TAC and sham at four weeks. The black square shows representative large images, magnification 400x. Image collected and cropped by CiteAb from the following publication (https://www.mdpi.com/1422-0067/20/19/4967) licensed under a CC-BY license.	
Flow Cytometry: DEC1 Antibody - BSA Free [NB100-1800] - An intracellular stain was performed on A431 cells with DEC1 Antibody NB100-1800AF647 (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 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 647.	

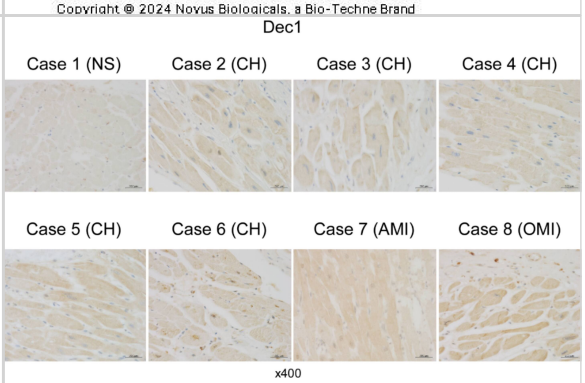
Western Blot: DEC1 Antibody - BSA Free [NB100-1800] - DEC1 expression decreases in HeLa cells under apoptosis. Western blotting images of cleaved-poly (ADP-ribose) polymerase (PARP), cleaved-caspase 3, Bcl-2, DEC1, DEC2, SOX2, c-MYC and actin treated with 10, 20, and 50 uM cisplatin or mock in HeLa and SiHa cells. Image collected and cropped by CiteAb from the following publication (//pubmed.ncbi.nlm.nih.gov/33089188/) licensed under a CC-BY license.	
Western Blot: DEC1 Antibody - BSA Free [NB100-1800] - Western blot analysis of DEC1 in HeLa whole cell lysate.	
Immunohistochemistry-Paraffin: DEC1 Antibody - BSA Free [NB100-1800] - P. gingivalis-challenged rat maxilla using DEC1 antibody at 1:100. Heat mediated antigen retrieval (sodium citrate buffer pH 6.0) was performed. Counter-stained with hematoxylin. Image from verified customer review.	
Immunoprecipitation: DEC1 Antibody - BSA Free [NB100-1800] - Samples: Whole cell lysate from HeLa (50 ug for WB) and 293T (1 mg/IP, 20% of IP loaded) cells. Antibodies: Affinity purified rabbit anti-DEC1 antibody BL2928 used for WB at 0.1 ug/ml (A) and 1 ug/ml (B) and for IP at 3 ug/mg lysate. DEC1 was also immunoprecipitated using rabbit anti-DEC1 antibodies BL2926 and BL2927, which recognize upstream epitopes. Detection: Chemiluminescence with exposure times of 3 minutes (A) and 30 seconds (B).	

Simple Western: DEC1 Antibody - BSA Free [NB100-1800] - Simple Western lane view shows a specific band for DEC1 in 1.0 mg/ml of HeLa lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.	
Immunoblotting: DEC1 Antibody - BSA Free [NB100-1800] - (B) HSC-2 cells were used to perform knockdown assays for three primary antibodies: HIF1A, DEC1, and DEC2 9. Real-time RT-PCR evaluated expression levels of MSH2, MBD4, MRE11A, BRCA1, and RAD51. Value displayed above the bar represents the ratio of expression under hypoxic conditions compared with that under normoxia. Citation: Nakamura H, Bono H, Hiyama K, Kawamoto T, Kato Y, Nakanishi T, et al. (2018) Differentiated embryo chondrocyte plays a crucial role in DNA damage response via transcriptional regulation under hypoxic conditions. PLoS ONE 13(2): e0192136. https://doi.org/10.1371/journal.pone.0192136	
Immunoblotting: DEC1 Antibody - BSA Free [NB100-1800] - DNA-DRR genes promoter activities decreased with DEC. (B) The DEC1 or DEC2 expression plasmids (B), each reporter, and DEC1 or delta basic DEC1 expression plasmids (C) were co-transfected into HepG2. Under normoxic conditions they were then incubated for 36 hours. A dual-luciferase assay system determined luciferase activities. Citation: Nakamura H, Bono H, Hiyama K, Kawamoto T, Kato Y, Nakanishi T, et al. (2018) Differentiated embryo chondrocyte plays a crucial role in DNA damage response via transcriptional regulation under hypoxic conditions. PLoS ONE 13(2): e0192136. https://doi.org/10.1371/journal.pone.0192136	
Immunoblotting: DEC1 Antibody - BSA Free [NB100-1800] - Knockdown assays in HSC-2 cells for HIF1A, DEC1, and DEC2. After transfecting and culturing non-specific siRNA or targeted siRNA into HSC-2, culturing them under normoxic and hypoxic conditions (24 hours), RT-PCR evaluated expression levels of the three primary antibodies. Citation: Nakamura H, Bono H, Hiyama K, Kawamoto T, Kato Y, Nakanishi T, et al. (2018) Differentiated embryo chondrocyte plays a crucial role in DNA damage response via transcriptional regulation under hypoxic conditions. PLoS ONE 13(2): e0192136. https://doi.org/10.1371/journal.pone.0192136	

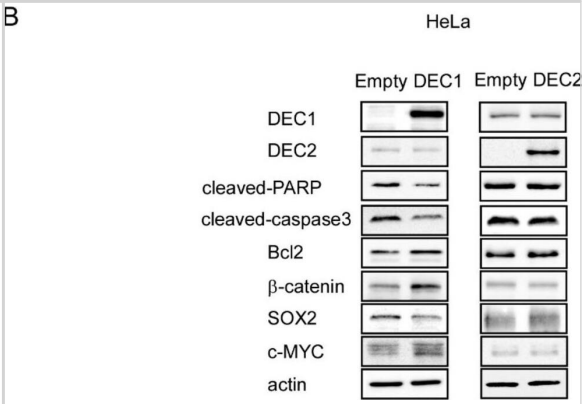
A431 human skin carcinoma cell line was stained with Rabbit anti-DEC1 Affinity-purified Polyclonal Antibody conjugated to Phycoerythrin (Catalog # NB100-1800PE, blue histogram) or matched control antibody (Catalog # NBP2-24983, orange histogram).



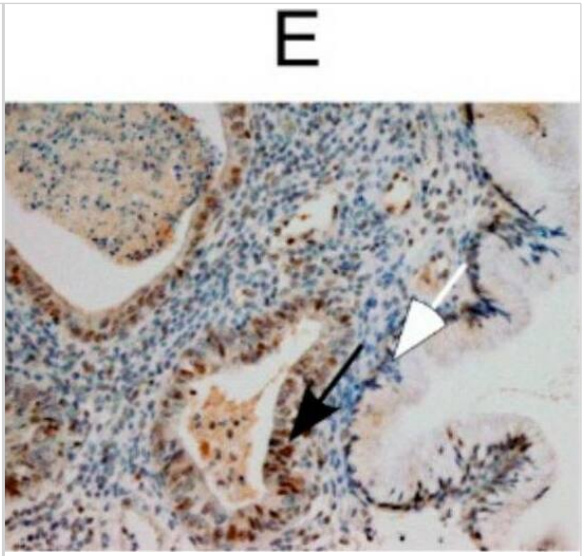
Immunohistochemistry: DEC1 Antibody - BSA Free [NB100-1800] - Dec1 expression is increased in the myocardial cells of cardiac hypertrophy & myocardial infarction. Immunohistochemical detection of Dec1 in human cardiac diseases. Representative image of Dec1 immunoreactivities from case 1 to case 8. Case 1 (control) had no significant findings (NS). Cases 2 to 6 are cardiac hypertrophy (CH). Case 7 is acute myocardial infarction (AMI), & case 8 is an old myocardial infarction (OMI). Magnification 400×. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/31597354), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



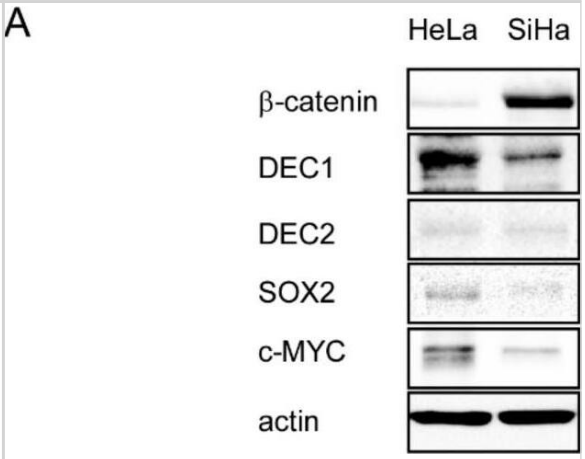
Western Blot: DEC1 Antibody - BSA Free [NB100-1800] - DEC1 has anti-apoptotic effects in HeLa cells under apoptosis. (A) Cell viability of HeLa, SiHa & Caski cells with (+) or without (−) cisplatin & empty vector, DEC1 or DEC2 plasmid treatment was determined. The absorbance (OD480/OD650) at 0 & 24 h is shown. The value of cell viability of control 0 h regarded as 10. Data are expressed as mean values ± SE (bars) of three independent samples. * $p < 0.05$, as determined using t-test. (B) Western blotting images of DEC1, DEC2, cleaved-PARP, cleaved-caspase 3, Bcl-2, β-catenin, SOX2, c-MYC & actin treated with 50 μM cisplatin & empty vector, DEC1 or DEC2 plasmid in HeLa cells. Western blot analysis was repeated three times & similar results were obtained. (C) SOX2 & c-MYC mRNA expressions in HeLa & SiHa cells with cisplatin & empty vector, DEC1 or DEC2 plasmid treatment. Data are expressed as mean values ± SE (bars) of three independent samples. * $p < 0.01$, as determined using t-test. qPCR was repeated three times & similar results were obtained. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/33089188), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



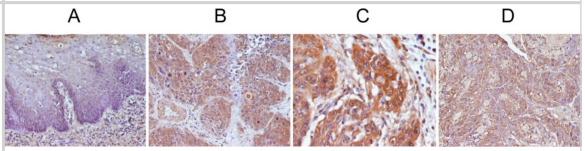
Immunohistochemistry: DEC1 Antibody - BSA Free [NB100-1800] - Immunoreactivities of DEC1, DEC2, SOX2, c-MYC & vimentin in cervical cancer tissues. Representative images for the immunoreactivities of DEC1, DEC2, SOX2, c-MYC & vimentin in cervical cancer tissues. Each panel shows ×200 magnification. DEC1 immunoreactivities in (A) non-cancerous cells, (B) shallow cancer cells, & (C) deep cancer cells of case 14. DEC1 immunoreactivity in (D) SCC of case 1, & in (E) AC of case 5, respectively. DEC2 immunoreactivities in (F) non-cancerous cells, (G) & cancer cells of case 15. SOX2 immunoreactivities in (H) non-cancerous cells, (I) shallow cancer cells, & (J) deep cancer cells of case 14. c-MYC immunoreactivities in (K) non-cancerous cells, (L) & cancer cells of case 15. Vimentin immunoreactivities in (M) non-cancerous vascular cells, (N) & cancerous vascular cells of case 14. Black arrows in E-G show nuclear staining. The white arrow in E indicates non-cancerous cells. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/33089188), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: DEC1 Antibody - BSA Free [NB100-1800] - DEC1 expression decreases in HeLa cells under apoptosis. (A) Endogenous DEC1 protein expressions in HeLa & SiHa cells. Western blotting images of β-catenin, DEC1, DEC2, SOX2, c-MYC & actin in HeLa & SiHa cells. The western blot analysis was repeated three times & similar results were obtained. (B) Cell viability of HeLa & SiHa cells with (+) or without (−) cisplatin treatment was determined. The absorbance (OD480/OD650) at 0 & 24 h is shown. The value of cell viability of control 0 h regarded as 10, which means each basal value without treatment. Data are expressed as mean values ± SE (bars) of three independent samples. * p <0.01, as determined using Dunnett's test. Cis: Cisplatin treatment. (C) Western blotting images of cleaved-poly (ADP-ribose) polymerase (PARP), cleaved-caspase 3, Bcl-2, DEC1, DEC2, SOX2, c-MYC & actin treated with 10, 20, & 50 μM cisplatin or mock in HeLa & SiHa cells. The western blot analysis was repeated three times & similar results were obtained (D) DEC1, DEC2 & SOX2 mRNA expressions in HeLa & SiHa cells with (+) or without (−) cisplatin treatment. Data are expressed as mean values ± SE (bars) of three independent samples. * p < 0.01, as determined using t-test. qPCR was repeated three times & similar results were obtained. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/33089188), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Immunohistochemistry: DEC1 Antibody - BSA Free [NB100-1800] - Immunoreactivities of DEC1, DEC2, SOX2, c-MYC & vimentin in cervical cancer tissues. Representative images for the immunoreactivities of DEC1, DEC2, SOX2, c-MYC & vimentin in cervical cancer tissues. Each panel shows ×200 magnification. DEC1 immunoreactivities in (A) non-cancerous cells, (B) shallow cancer cells, & (C) deep cancer cells of case 14. DEC1 immunoreactivity in (D) SCC of case 1, & in (E) AC of case 5, respectively. DEC2 immunoreactivities in (F) non-cancerous cells, (G) & cancer cells of case 15. SOX2 immunoreactivities in (H) non-cancerous cells, (I) shallow cancer cells, & (J) deep cancer cells of case 14. c-MYC immunoreactivities in (K) non-cancerous cells, (L) & cancer cells of case 15. Vimentin immunoreactivities in (M) non-cancerous vascular cells, (N) & cancerous vascular cells of case 14. Black arrows in E-G show nuclear staining. The white arrow in E indicates non-cancerous cells. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/33089188), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



An intracellular stain was performed on A431 human skin carcinoma cell line using Rabbit anti-DEC1 Affinity Purified Polyclonal Antibody conjugated to Alexa Fluor® 647 (Catalog # NB100-1800AF647, blue histogram) or matched control antibody (Catalog # NBP2-24981AF647, orange histogram) at 2.5 µg/mL for 30 minutes at RT.	

Publications

Verstappe J, Skrypek N, De Coninck J, Soen B et Al. ZEB2 drives intra-tumor heterogeneity and skin squamous cell carcinoma formation with distinct EMP transition states iScience 2024-11-18 [PMID: 39555401]

Zhang H, Jadhav RR, Cao W et Al. Aging-associated HELIOS deficiency in naive CD4(+) T cells alters chromatin remodeling and promotes effector cell responses Nat Immunol 2023-01-09 [PMID: 36510022]

van den Berg L, Kokki K, Wowro SJ et al. Sugar-responsive inhibition of Myc-dependent ribosome biogenesis by Clockwork orange Cell reports 2023-07-25 [PMID: 37405919]

Nakamura S, Tanimoto K, Bhawal U Ribosomal Stress Couples with the Hypoxia Response in Dec1-Dependent Orthodontic Tooth Movement International Journal of Molecular Sciences 2022-12-29 [PMID: 36614058]

Vignesh Sundararajan, Ming Tan, Tuan Zea Tan, Qing You Pang, Jieru Ye, Vin Yee Chung, Ruby Yun-Ju Huang SNAI1-Driven Sequential EMT Changes Attributed by Selective Chromatin Enrichment of RAD21 and GRHL2 Cancers 2020-05-02 [PMID: 32370157]

Centeno PP, Pavet V, Marais R The journey from melanocytes to melanoma Nature reviews. Cancer 2023-06-01 [PMID: 37095242]

Feng DD, Zheng B, Yu J et al. 17?-Estradiol Inhibits Proliferation and Oxidative Stress in Vascular Smooth Muscle Cells by Upregulating BHLHE40 Expression Frontiers in Cardiovascular Medicine 2021-11-30 [PMID: 34917665]

Montalvo AP, Gruskin ZL, Leduc A et al. An adult clock component links circadian rhythms to pancreatic ?-cell maturation bioRxiv 2023-08-17 [PMID: 37609178] (Flow Cytometry)

Partridge EC, Chhetri SB, Prokop JW et al. Occupancy maps of 208 chromatin-associated proteins in one human cell type Nature 2020-07-30 [PMID: 32728244]

Shearn, CT;Anderson, AL;Devereaux, MW;El Kasmi, KC;Orlicky, DJ;Sokol, RJ; Expression of circadian regulatory genes is dysregulated by increased cytokine production in mice subjected to concomitant intestinal injury and parenteral nutrition PloS one 2023-08-30 [PMID: 37647292] (Western Blot)

Sui Y, Jiang H, Kellogg CM et al. Promotion of colorectal cancer by transcription factor BHLHE40 involves upregulation of ADAM19 and KLF7 Frontiers in oncology 2023-02-20 [PMID: 36890812] (WB)

Karakaya S, Gunnesson L, Elias E et al. Cytoplasmic HIF-2? as tissue biomarker to identify metastatic sympathetic paraganglioma Scientific reports 2023-07-18 [PMID: 37463949] (IHC-P, Human)

More publications at http://www.novusbio.com/NB100-1800

Procedures

Immunocytochemistry/Immunofluorescence protocol for DEC1 Antibody (NB100-1800)

Culture cells to appropriate density in 35 mm culture dishes or 6-well plates.

1. Remove culture medium and add 10% formalin to the dish. Fix at room temperature for 30 minutes.
2. Remove the formalin and add ice cold methanol. Incubate for 5-10 minutes.
3. Remove methanol and add washing solution (i.e. PBS). Be sure to not let the specimen dry out. Wash three times for 10 minutes.
4. To block nonspecific antibody binding incubate in 10% normal goat serum from 1 hour to overnight at room temperature.
5. Add primary antibody at appropriate dilution and incubate at room temperature from 2 hours to overnight at room temperature.
6. Remove primary antibody and replace with washing solution. Wash three times for 10 minutes.
7. Add secondary antibody at appropriate dilution. Incubate for 1 hour at room temperature.
8. Remove antibody and replace with wash solution, then wash for 10 minutes. Add Hoechst 33258 to wash solution at 1:25,0000 and incubate for 10 minutes. Wash a third time for 10 minutes.
9. Cells can be viewed directly after washing. The plates can also be stored in PBS containing Azide covered in Parafilm (TM). Cells can also be cover-slipped using Fluoromount, with appropriate sealing.

*The above information is only intended as a guide. The researcher should determine what protocol best meets their needs. Please follow safe laboratory procedures.

Western Blot protocol for DEC1 Antibody (NB100-1800)

Western Blot Protocol

1. Perform SDS-PAGE on samples to be analyzed, loading 25 ug of total protein per lane.
2. Transfer proteins to membrane according to the instructions provided by the manufacturer of the membrane and transfer apparatus.
3. Stain according to standard Ponceau S procedure (or similar product) to assess transfer success, and mark molecular weight standards where appropriate.
4. Rinse the blot.
5. Block the membrane using standard blocking buffer for at least 1 hour.
6. Wash the membrane in wash buffer three times for 10 minutes each.
7. Dilute anti-DEC1 primary antibody in blocking buffer and incubate 1 hour at room temperature.
8. Wash the membrane in wash buffer three times for 10 minutes each.
9. Apply the diluted HRP conjugated secondary antibody in blocking buffer (as per manufacturers instructions) and incubate 1 hour at room temperature.
10. Wash the blot in wash buffer three times for 10 minutes each (this step can be repeated as required to reduce background).
11. Apply the detection reagent of choice in accordance with the manufacturers instructions.

Note: Tween-20 can be added to the blocking or antibody dilution buffer at a final concentration of 0.05-0.2%.

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Products Related to NB100-1800

NBL1-07974	DEC1 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

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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