

# 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.

[www.novusbio.com](http://www.novusbio.com)



[technical@novusbio.com](mailto:technical@novusbio.com)

**Reviews: 2 Publications: 41**

Protocols, Publications, Related Products, Reviews, Research Tools and Images at:  
[www.novusbio.com/NB100-1800](http://www.novusbio.com/NB100-1800)

Updated 12/20/2023 v.20.1

**Earn rewards for product  
reviews and publications.**

Submit a publication at [www.novusbio.com/publications](http://www.novusbio.com/publications)

Submit a review at [www.novusbio.com/reviews/destination/NB100-1800](http://www.novusbio.com/reviews/destination/NB100-1800)



**NB100-1800**

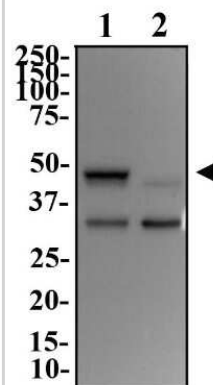
DEC1 Antibody - BSA Free

<b>Product Information</b>	
<b>Unit Size</b>	0.1 ml
<b>Concentration</b>	1 mg/ml
<b>Storage</b>	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
<b>Clonality</b>	Polyclonal
<b>Preservative</b>	0.02% Sodium Azide
<b>Isotype</b>	IgG
<b>Purity</b>	Immunogen affinity purified
<b>Buffer</b>	PBS
<b>Target Molecular Weight</b>	46 kDa
<b>Product Description</b>	
<b>Host</b>	Rabbit
<b>Gene ID</b>	8553
<b>Gene Symbol</b>	BHLHE40
<b>Species</b>	Human, Mouse, Rat
<b>Reactivity Notes</b>	Mouse reactivity reported in scientific literature (PMID: 26834156).
<b>Immunogen</b>	Synthetic peptide made to a C-terminal region of human DEC1 (between amino acids 350-412) [UniProt O14503]
<b>Product Application Details</b>	
<b>Applications</b>	Western Blot, Simple Western, Chromatin Immunoprecipitation, ELISA, Flow Cytometry, Immunoblotting, Immunocytochemistry/Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Immunoprecipitation, Chromatin Immunoprecipitation (ChIP), Chromatin Immunoprecipitation Sequencing
<b>Recommended Dilutions</b>	Western Blot 1:5000-1:15000, 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, Immunocytochemistry/Immunofluorescence 1:500 - 1:1000, Immunoprecipitation, Immunohistochemistry-Paraffin, Immunoblotting, Chromatin Immunoprecipitation (ChIP), Chromatin Immunoprecipitation Sequencing reported in scientific literature (PMID 31061528)
<b>Application Notes</b>	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. Separated by Size-Wes, Sally Sue/Peggy Sue.

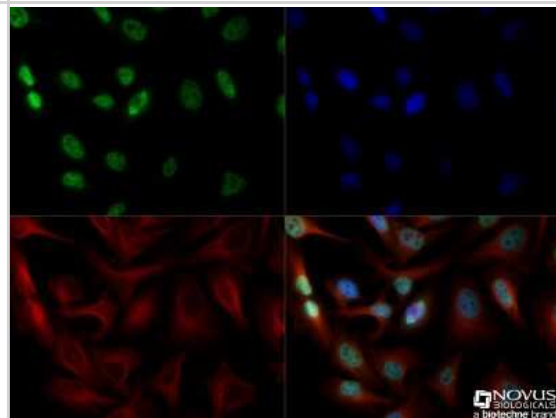


## Images

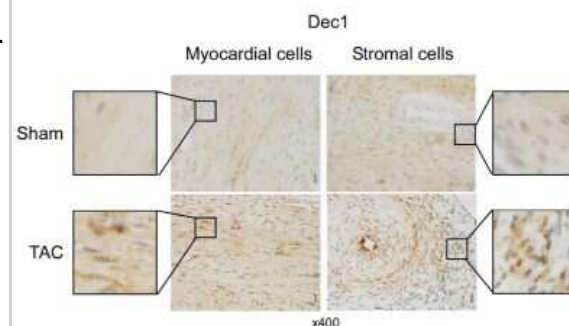
**Western Blot: DEC1 Antibody - BSA Free [NB100-1800]** - Western Blot Image of anti-DEC1. Whole cell protein from A431 (lane 1) and PC3 (lane 2) was separated on a 12% gel by SDS-PAGE, transferred to PVDF membrane and blocked in 5% non-fat milk in TBST. The membrane was probed with 2 ug/ml anti-DEC1 in 1% milk, and detected with an anti-rabbit HRP secondary antibody using chemiluminescence.



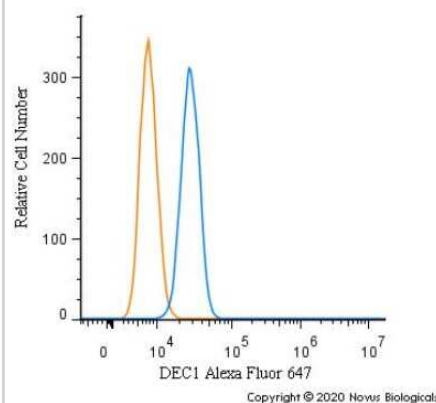
**Immunocytochemistry/Immunofluorescence: DEC1 Antibody - BSA Free [NB100-1800]** - HeLa cells were fixed for 10 minutes using 10% formalin and then permeabilized for 5 minutes using 1X TBS + 0.5% Triton-X100. The cells were incubated with anti-DEC1 (NB100-1800) at a 1:200 dilution overnight at 4C and detected with 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 anti-mouse Dylight 550 (Red) at a 1:500 dilution. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 40X objective.



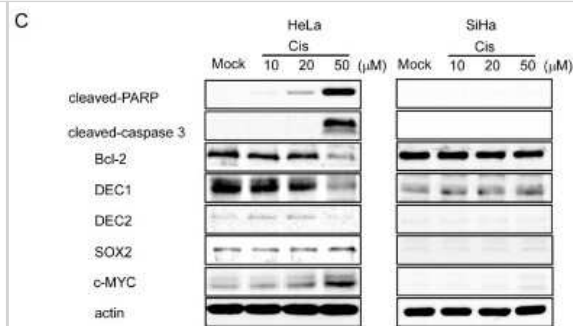
**Immunohistochemistry: DEC1 Antibody - BSA Free [NB100-1800]** - Immunohistochemical detection of DEC1 in myocardial and stromal cells. Representative images of one WT heart treated with TAC and sham at four weeks. The black square shows representative large images, magnification 400x. Image collected and cropped by CiteAb from the following publication (<https://www.mdpi.com/1422-0067/20/19/4967>) licensed under a CC-BY license.



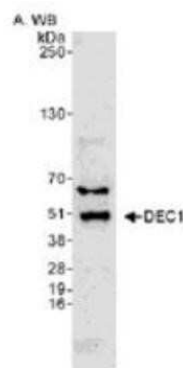
**Flow Cytometry: DEC1 Antibody - BSA Free [NB100-1800]** - An intracellular stain was performed on A431 cells with DEC1 Antibody NB100-1800AF647 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 2.5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 647.



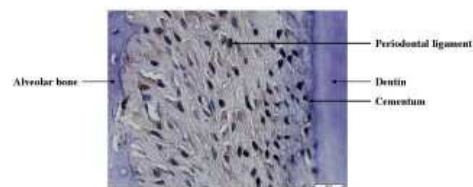
Western Blot: DEC1 Antibody - BSA Free [NB100-1800] - DEC1 expression decreases in HeLa cells under apoptosis. Western blotting images of cleaved-poly (ADP-ribose) polymerase (PARP), cleaved-caspase 3, Bcl-2, DEC1, DEC2, SOX2, c-MYC and actin treated with 10, 20, and 50  $\mu$ M cisplatin or mock in HeLa and SiHa cells. Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/33089188/>) licensed under a CC-BY license.



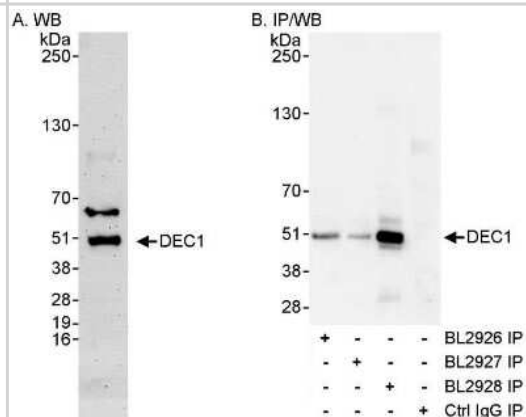
Western Blot: DEC1 Antibody - BSA Free [NB100-1800] - Western blot analysis of DEC1 in HeLa whole cell lysate.



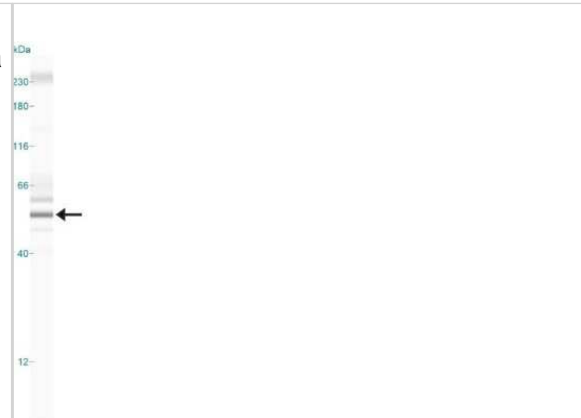
Immunohistochemistry-Paraffin: DEC1 Antibody - BSA Free [NB100-1800] - *P. gingivalis*-challenged rat maxilla using DEC1 antibody at 1:100. Heat mediated antigen retrieval (sodium citrate buffer pH 6.0) was performed. Counter-stained with hematoxylin. Image from verified customer review.



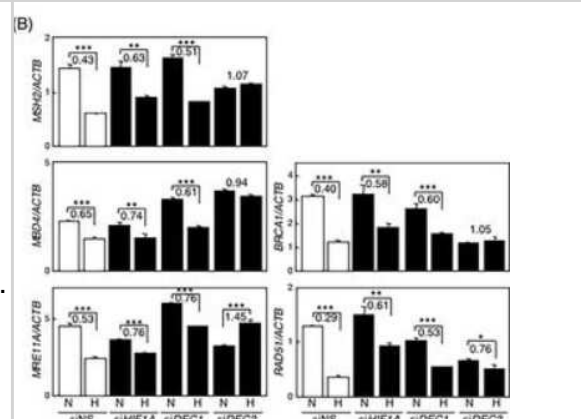
Immunoprecipitation: DEC1 Antibody - BSA Free [NB100-1800] - Samples: Whole cell lysate from HeLa (50  $\mu$ g for WB) and 293T (1 mg/IP, 20% of IP loaded) cells. Antibodies: Affinity purified rabbit anti-DEC1 antibody BL2928 used for WB at 0.1  $\mu$ g/ml (A) and 1  $\mu$ g/ml (B) and for IP at 3  $\mu$ g/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).



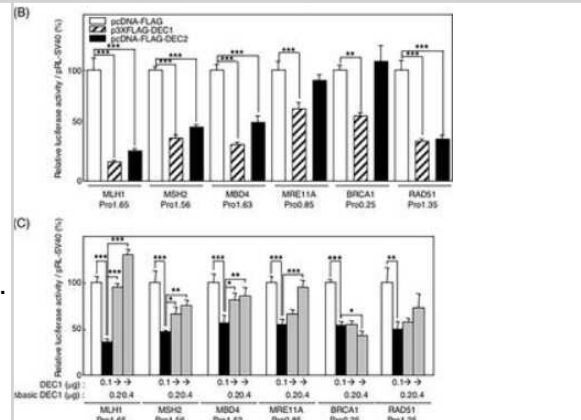
Simple Western: DEC1 Antibody - BSA Free [NB100-1800] - Simple Western lane view shows a specific band for DEC1 in 1.0 mg/ml of HeLa lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.



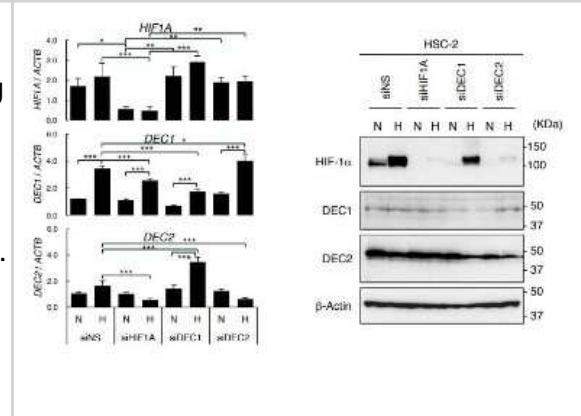
Immunoblotting: DEC1 Antibody - BSA Free [NB100-1800] - (B) HSC-2 cells were used to perform knockdown assays for three primary antibodies: HIF1A, DEC1, and DEC2. Real-time RT-PCR evaluated expression levels of MSH2, MBD4, MRE11A, BRCA1, and RAD51. Value displayed above the bar represents the ratio of 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>



## Publications

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 $\beta$ -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  $\beta$ -cell maturation bioRxiv 2023-08-17 [PMID: 37609178] (FLOW)

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] (WB)

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 $\alpha$  as tissue biomarker to identify metastatic sympathetic paraganglioma Scientific reports 2023-07-18 [PMID: 37463949] (IHC-P, Human)

Lv J, Wei Y, Yin JH et al. The tumor immune microenvironment of nasopharyngeal carcinoma after gemcitabine plus cisplatin treatment Nature medicine 2023-06-01 [PMID: 37280275]

Chen Z, Javed N, Moore M et al. Integrative dissection of gene regulatory elements at base resolution Cell genomics 2023-06-14 [PMID: 37388913] (ChIP, Human)

Pathmanapan, S;Poon, R;De Renshaw, TB;Nadesan, P;Nakagawa, M;Seesankar, GA;Ho Loe, AK;Zhang, HH;Guinovart, JJ;Duran, J;Newgard, CB;Wunder, JS;Alman, BA; Mutant IDH regulates glycogen metabolism from early cartilage development to malignant chondrosarcoma formation Cell reports 2023-06-01 [PMID: 37267108] (IHC, Human, Mouse)

Nechanitzky R, Nechanitzky D, Ramachandran P et al. Cholinergic control of Th17 cell pathogenicity in experimental autoimmune encephalomyelitis Cell death and differentiation 2022-12-17 [PMID: 36528755] (ChIP, Mouse)

Sato F, Bhawal UK, Osaki S et al. Differential immunohistochemical expression of DEC1, CK 1 epsilon, and CD44 in oral atypical squamous epithelium and carcinoma in situ Molecular medicine reports 2022-05-01 [PMID: 35266015] (IF/IHC, Human)

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





## Procedures

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

[[URL:https://www.novusbio.com/products/dec1-antibody\_nb100-1800]][[Caption:DEC1 Antibody]]

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 1:25,000 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)

[[URL:https://www.novusbio.com/products/dec1-antibody\_nb100-1800]][[Caption:DEC1 Antibody]]

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%.



### **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@bio-techne.com  
Orders: nb-customerservice@bio-techne.com  
General: novus@novusbio.com

### **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.

For more information on our 100% guarantee, please visit [www.novusbio.com/guarantee](http://www.novusbio.com/guarantee)

Earn gift cards/discounts by submitting a review: [www.novusbio.com/reviews/submit/NB100-1800](http://www.novusbio.com/reviews/submit/NB100-1800)

Earn gift cards/discounts by submitting a publication using this product:  
[www.novusbio.com/publications](http://www.novusbio.com/publications)

