

# Product Datasheet

## KLF4 Antibody - BSA Free NBP1-83940

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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**NBP1-83940**

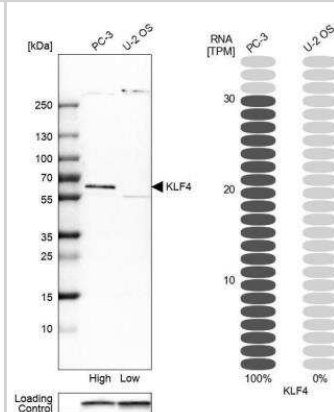
KLF4 Antibody - BSA Free

<b>Product Information</b>	
<b>Unit Size</b>	0.1 ml
<b>Concentration</b>	Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services.
<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 (pH 7.2) and 40% Glycerol
<b>Target Molecular Weight</b>	56 kDa
<b>Product Description</b>	
<b>Host</b>	Rabbit
<b>Gene ID</b>	9314
<b>Gene Symbol</b>	KLF4
<b>Species</b>	Human
<b>Reactivity Notes</b>	Immunogen displays the following percentage of sequence identity for non-tested species: Mouse (89%), Rat (89%).
<b>Immunogen</b>	This antibody was developed against Recombinant Protein corresponding to amino acids: E T E E F N D L L D L D F I L S N S L T H P P E S V A A T V S S S A S A S S S S S P S S S G P A S A P S T C S F T Y P I R A G N D P G V A P G G T G G G L L Y G R E S A P P T A P F N L A D I N D V S P
<b>Product Application Details</b>	
<b>Applications</b>	Western Blot, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Immunoprecipitation, Chromatin Immunoprecipitation (ChIP), Knockdown Validated
<b>Recommended Dilutions</b>	Western Blot 0.04-0.4 ug/ml, Immunohistochemistry 1:1000 - 1:2500, Immunocytochemistry/ Immunofluorescence 0.25-2 ug/ml, Immunoprecipitation Reported in scientific literature (PMID: 25228645)., Immunohistochemistry-Paraffin 1:1000 - 1:2500, Chromatin Immunoprecipitation (ChIP) Reported in scientific literature (PMID: 25228645)., Knockdown Validated Reported in scientific publication (PMID: 32427586).
<b>Application Notes</b>	For IHC-Paraffin, HIER pH 6 retrieval is recommended. ICC/IF, fixation/permeabilization: PFA/Triton X-100.

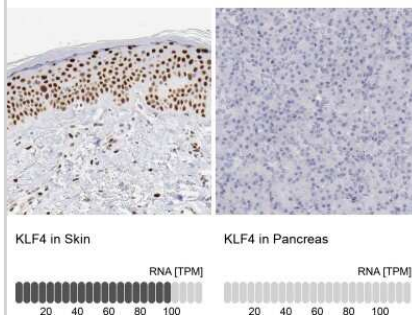


## Images

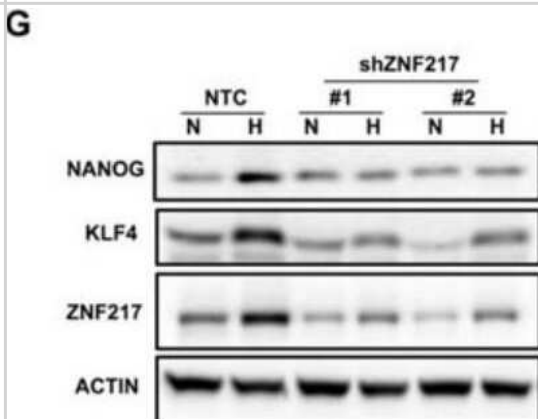
Western Blot: KLF4 Antibody [NBP1-83940] - Analysis in human cell lines PC-3 and U2OS using Anti-KLF4 antibody. Corresponding KLF4 RNA-seq data are presented for the same cell lines. Loading control: Anti-GAPDH.



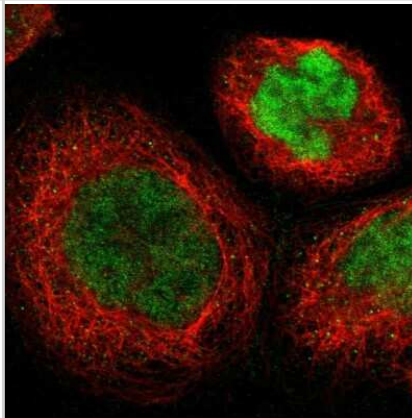
Immunohistochemistry-Paraffin: KLF4 Antibody [NBP1-83940] - Staining in human skin and pancreas tissues. Corresponding KLF4 RNA-seq data are presented for the same tissues.



Western Blot: KLF4 Antibody [NBP1-83940] - ZNF217 and ALKBH5 regulate NANOG and KLF4 expression via modulation of m6A levels. MCF-7 subclones were exposed to 20% or 1% O<sub>2</sub> for 48 h and immunoblot assays were performed. Image collected and cropped by CiteAb from the following publication (<https://www.oncotarget.com/article/11743/text/>) licensed under a CC-BY license.



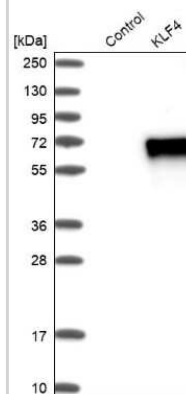
Immunocytochemistry/Immunofluorescence: KLF4 Antibody [NBP1-83940] - Staining of human cell line A-431 shows localization to nucleoplasm. Antibody staining is shown in green.



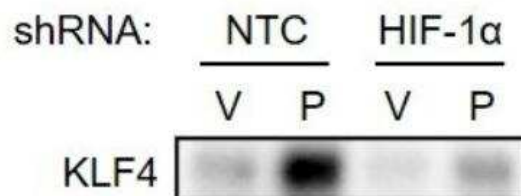
Western Blot: KLF4 Antibody [NBP1-83940] - Human breast cancer cell MCF-7 was treated with carboplatin, alone or in combination with Stat3 inhibitor, for 72 hours, and the expression of Klf4 was detected by Western blot. WB image submitted by a verified customer review.



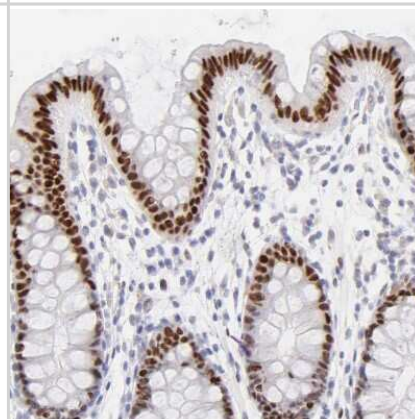
Western Blot: KLF4 Antibody [NBP1-83940] - Analysis in control (vector only transfected HEK293T lysate) and KLF4 over-expression lysate (Co-expressed with a C-terminal myc-DDK tag (3.1 kDa) in mammalian HEK293T cells).



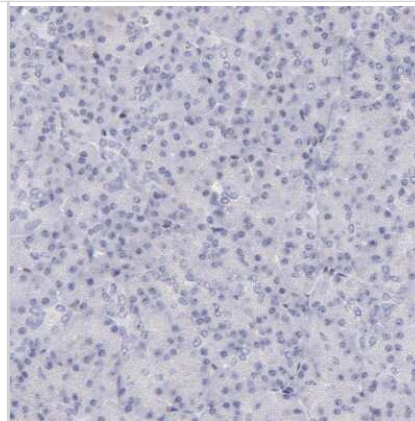
Western Blot: KLF4 Antibody [NBP1-83940] - MDA-MB-231 subclones transfected with NTC or HIF-1 alpha shRNA vector were treated with vehicle (V) or paclitaxel (P) and immunoblot assay was performed. WB image submitted by a verified customer review.



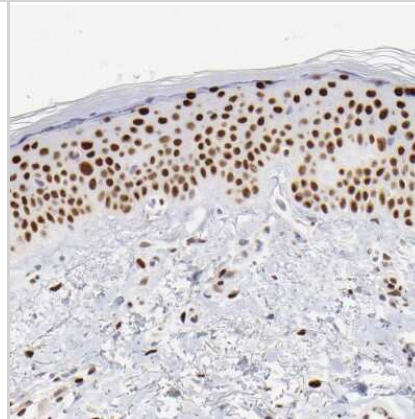
Immunohistochemistry-Paraffin: KLF4 Antibody [NBP1-83940] - Staining of human colon shows moderate to strong nuclear positivity in glandular cells.



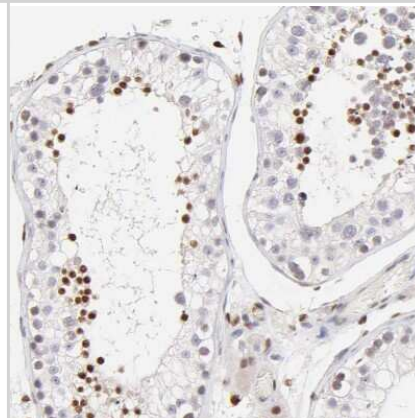
Immunohistochemistry-Paraffin: KLF4 Antibody [NBP1-83940] - Staining of human pancreas shows no positivity in exocrine glandular cells as expected.



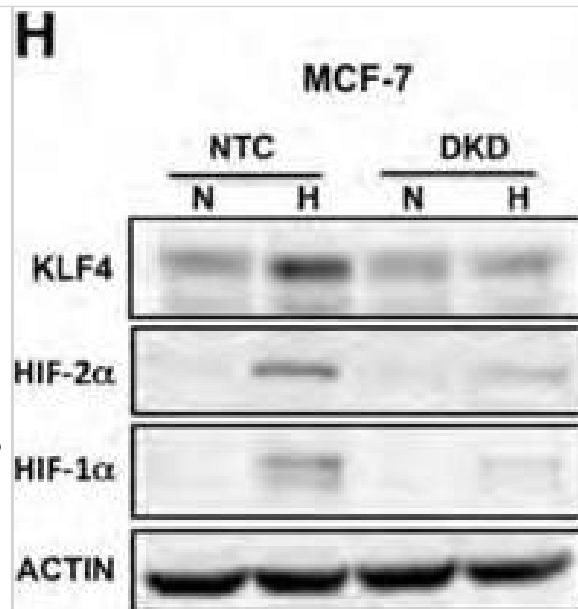
Immunohistochemistry-Paraffin: KLF4 Antibody [NBP1-83940] - Staining of human skin shows moderate to strong nuclear positivity in keratinocytes.



Immunohistochemistry-Paraffin: KLF4 Antibody [NBP1-83940] - Staining of human testis shows moderate to strong nuclear positivity in a subset of cells in seminiferous ducts.



Western Blot: KLF4 Antibody [NBP1-83940] - HIFs are required for hypoxia-induced expression of pluripotency factors A-C. Breast cancer cell lines were exposed to 20% or 1% O<sub>2</sub> for 24 h & NANOG (A), KLF4 (B), & SOX2 (C) mRNA levels were determined by RT-qPCR, relative to 18S rRNA, & normalized to the mean value for MDA-MB-231 cells (MDA231) at 20% O<sub>2</sub> (mean ± SEM; n = 3). \*P < 0.05, \*\*P < 0.01, \*\*\*P < 0.001 vs. same cell line at 20% O<sub>2</sub> by Student's t test. D & E. HCC-1954 (D) & MCF-7 (E) subclones, which were stably transfected with an expression vector encoding a non-targeting control (NTC) shRNA, or vector encoding shRNA targeting HIF-1α (sh1α) or HIF-2α (sh2α), or vectors encoding shRNAs targeting both HIF-1α & HIF-2α (DKD), were exposed to 20% or 1% O<sub>2</sub> for 24 h & RT-qPCR was performed to determine NANOG (D) or KLF4 (E) mRNA levels relative to 18S rRNA. The results were normalized to NTC at 20% O<sub>2</sub> (mean ± SEM; n = 3). \*P < 0.05, \*\*P < 0.01, \*\*\*P < 0.001 vs. NTC at 20% O<sub>2</sub>; #P < 0.05, ##P < 0.01, ###P < 0.001 vs. NTC at 1% O<sub>2</sub> by ANOVA. F. ZR75.1 cells treated with vehicle or digoxin (200 nM) were exposed to 20% or 1% O<sub>2</sub> for 24 h & SOX2 mRNA was measured (mean ± SEM; n = 3). \*P < 0.05, \*\*P < 0.01 vs. NTC at 20% O<sub>2</sub>; ###P < 0.001 vs. NTC at 1% O<sub>2</sub> by ANOVA. G & H. NTC & DKD subclones of HCC-1954 (G) & MCF-7 (H) were exposed to 20% or 1% O<sub>2</sub> for 48 h, whole cell lysates were prepared, & immunoblot assays were performed to analyze HIF-1α, HIF-2α, NANOG & KLF4 protein expression. Actin was also analyzed as a loading control. I. ZR75.1 cells were treated with vehicle or digoxin (200 nM), exposed to 20% or 1% O<sub>2</sub> for 48 h, & HIF-1α, NANOG & SOX2 immunoblot assays were performed. Image collected & cropped by CiteAb from the following publication (<https://www.oncotarget.com/lookup/doi/10.18632/oncotarget.11743>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

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)

Haiquan Lu, Yajing Lyu, Linh Tran, Jie Lan, Yangyiran Xie, Yongkang Yang, Naveena L Murugan, Yueyang J Wang, Gregg L Semenza HIF-1 recruits NANOG as a coactivator for TERT gene transcription in hypoxic breast cancer stem cells. Cell reports 2022-02-10 [PMID: 34592152]

Morales-Martinez M, Vega GG, Neri N et al. MicroRNA-7 Regulates Migration and Chemoresistance in Non-Hodgkin Lymphoma Cells Through Regulation of KLF4 and YY1 Frontiers in Oncology 2020-10-27 [PMID: 33194748]

Yang Y, Chen C, Zuo Q Et al. NARF is a hypoxia-induced coactivator for OCT4-mediated breast cancer stem cell specification Sci Adv 2022-12-09 [PMID: 36490339] (WB, Human)

### Details:

Citation using the DyLight 405 version of this antibody.

Zhou Y, Yang J, Chen C et al. Polyphyllin III-Induced Ferroptosis in MDA-MB-231 Triple-Negative Breast Cancer Cells can Be Protected Against by KLF4-Mediated Upregulation of xCT Frontiers in pharmacology 2021-05-10 [PMID: 34040532] (IHC-P, IP, WB, Human)

Lu H, Xie Y, Tran L et al. Chemotherapy-induced S100A10 recruits KDM6A to facilitate OCT4-mediated breast cancer stemness J Clin Invest. 2020-05-19 [PMID: 32427586] (KD, WB, Human)

Lu H, Chen I, Shimoda LA et al. Chemotherapy-Induced Ca<sup>2+</sup> Release Stimulates Breast Cancer Stem Cell Enrichment Cell Rep. 2017-02-21 [PMID: 28228260] (WB, Human)

### Details:

The positive impact of HIF inhibitors on breast cancer chemotherapy is explored through GSTO1 knockdown.

Zhang C, Zhi WI, Lu H et al. Hypoxia-inducible factors regulate pluripotency factor expression by ZNF217- and ALKBH5-mediated modulation of RNA methylation in breast cancer cells. Oncotarget. 2016-08-31 [PMID: 27590511] (WB, Human)

Nawandar DM, Wang A, Makielski K et al. Differentiation-Dependent KLF4 Expression Promotes Lytic Epstein-Barr Virus Infection in Epithelial Cells. PLoS Pathog 2015-10-01 [PMID: 26431332] (IF/IHC, Human)

Boxer LD, Barajas B, Tao S et al. ZNF750 interacts with KLF4 and RCOR1, KDM1A, and CTBP1/2 chromatin regulators to repress epidermal progenitor genes and induce differentiation genes. Genes Dev 2014-09-15 [PMID: 25228645] (Chemotaxis, ICC/IF, WB, IP, Human)

Hale AT, Tian H, Anih E et al. Endothelial Kruppel-like Factor 4 Regulates Angiogenesis and the Notch Signaling Pathway. J Biol Chem 2014-04-25 [PMID: 24599951] (IP, Human)

Elsir T, Edqvist PH, Carlson J et al. A study of embryonic stem cell-related proteins in human astrocytomas: identification of Nanog as a predictor of survival. Int J Cancer 2014-03-01 [PMID: 24037901]





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