

# Product Datasheet

## KLF4 Antibody - BSA Free NBP2-24749

Unit Size: 0.1 mg

Store at -20C. Avoid freeze-thaw cycles.

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**NBP2-24749**

KLF4 Antibody - BSA Free

Product Information	
Unit Size	0.1 mg
Concentration	1.0 mg/ml
Storage	Store at -20C. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.05% Sodium Azide
Isotype	IgG
Purity	Protein G purified
Buffer	PBS

Product Description	
Host	Rabbit
Gene ID	9314
Gene Symbol	KLF4
Species	Human, Mouse, Rat, Primate
Reactivity Notes	The amino acid sequence used as immunogen for the antibody is 100% homologous in human and chimpanzee. Mouse reactivity reported in scientific publication.
Immunogen	A portion of amino acids 1-50 of human KLF4 was used as the immunogen for this antibody.

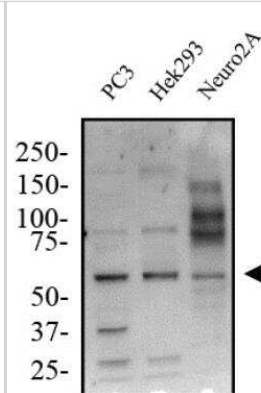
Product Application Details	
Applications	Western Blot, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1-3 ug/ml, Flow Cytometry 1 ug/10 <sup>6</sup> cells, Immunohistochemistry reported in scientific literature (PMID 34428252; 30901290), Immunocytochemistry/ Immunofluorescence 1:10-1:500. Use reported in scientific literature (PMID 34428252), Immunohistochemistry-Paraffin 10 ug/ml

**Images**

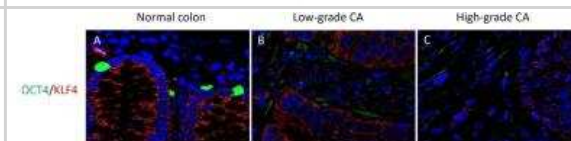
Immunohistochemistry: KLF4 Antibody [NBP2-24749] - DAB IHC staining. Representative 3,3-diaminobenzidine immunohistochemical-stained images showing protein expression of induced-pluripotent stem cell marker KLF4 (J-L, brown) in normal colon (J), low-grade (K) and high-grade (L) colon adenocarcinoma tissue samples. Nuclei were counter-stained with hematoxylin (A-O, blue). Original magnification: 400x. Image collected and cropped by CiteAb from the following publication ([//doi.org/10.1371/journal.pone.0221963](https://doi.org/10.1371/journal.pone.0221963)) licensed under a CC-BY license.



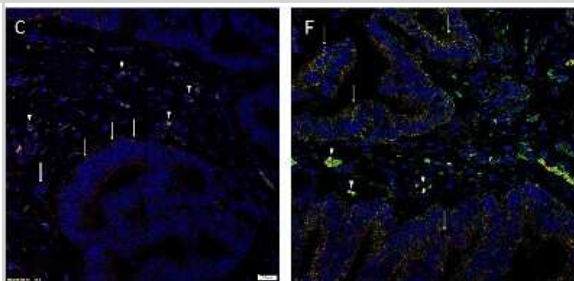
**Western Blot: KLF4 Antibody [NBP2-24749]** - Total protein from Human PC3, Hek293 and Mouse Neuro2A cells was separated on a 7.5% gel by SDS-PAGE, transferred to PVDF membrane and blocked in 5% non-fat milk in TBST. The membrane was probed with 2.0 ug/ml anti-KLF4 in 1% non-fat milk in TBST and detected with an anti-rabbit HRP secondary antibody using chemiluminescence.



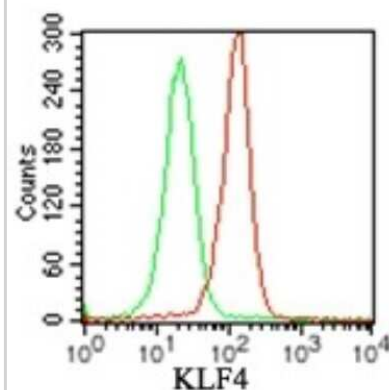
**Immunohistochemistry: KLF4 Antibody [NBP2-24749]** - IF IHC staining. Representative immunofluorescence immunohistochemical-stained images showing protein expression of induced-pluripotent stem cell markers OCT4 (A-C, green), KLF4 (A-C, red) in normal colon (A), low-grade (B) and high-grade (C) colon adenocarcinoma tissue samples. Cell nuclei were counter-stained with 4', 6'-diamidino-2-phenylindole (A-C, blue). Original magnification: 400x. Image collected and cropped by CiteAb from the following publication ([//doi.org/10.1371/journal.pone.0221963](https://doi.org/10.1371/journal.pone.0221963)) licensed under a CC-BY license.



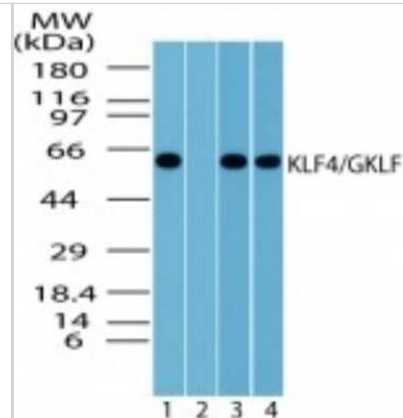
**Immunohistochemistry-Paraffin: KLF4 Antibody [NBP2-24749]** - Representative immunofluorescence immunohistochemical-stained sections of colon adenocarcinoma metastasis to the liver showing the expression of KLF4 [red] on the cells within the tumor nests (TNs) [thin arrows] and those within the peritumoral stroma [arrowheads]. OCT4 [green] was expressed on the KLF4+ [green, arrowheads] cells within the peritumoral stroma, and also cells within the peritumoral stroma that expressed KLF4 [red, thick arrows] not expressing OCT4. c-Myc was expressed by cells within the TNs [green, arrows] and those within the peritumoral stroma [arrowheads]. The c-Myc+ population within the peritumoral stroma also expressed KLF4 [red]. Cell nuclei were counterstained with DAPI [blue]. Scale bars: 20 um. Image collected and cropped by CiteAb from the following publication (<https://journal.frontiersin.org/article/10.3389/fsurg.2017.00076/full>), licensed under a CC-BY license.



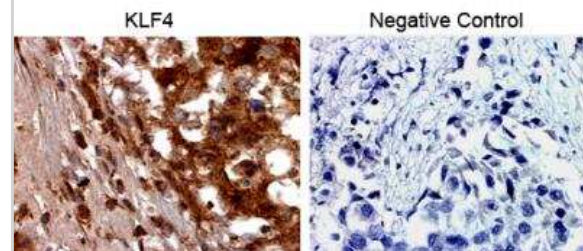
**Flow Cytometry: KLF4 Antibody [NBP2-24749]** - Intracellular analysis using KLF4 antibody. Balb/c mouse splenocytes were probed using 1 ug of KLF4 antibody (red) and 1 ug of isotype control was used for this test, and an anti-rabbit IgG PE conjugated secondary .



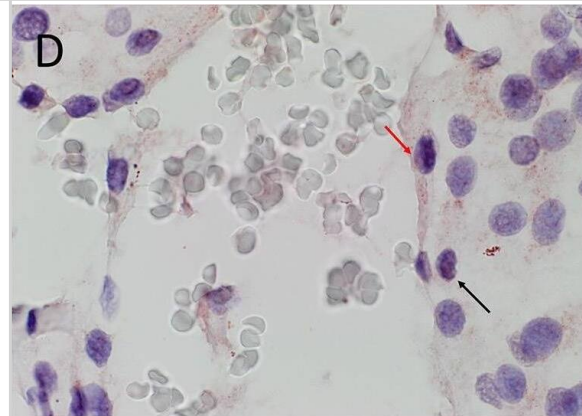
Western Blot: KLF4 Antibody [NBP2-24749] - Lysate from human 293 cells in the (1) absence and (2) presence of immunizing peptide, (3) mouse NIH 3T3, and (4) RAW cells probed with KLF4 antibody at 1 ug/ml (293) and 2 ug/ml (NIH 3T3 and RAW). Goat anti-rabbit IgG HRP secondary and PicoTect ECL substrate solution were used for this test.



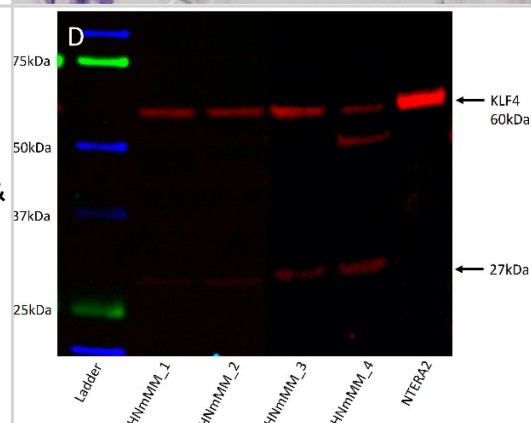
Immunohistochemistry-Paraffin: KLF4 Antibody [NBP2-24749] - Breast cancer tissues embedded in paraffin. Negative control is no primary antibody. IHC-P image submitted by a verified customer review.



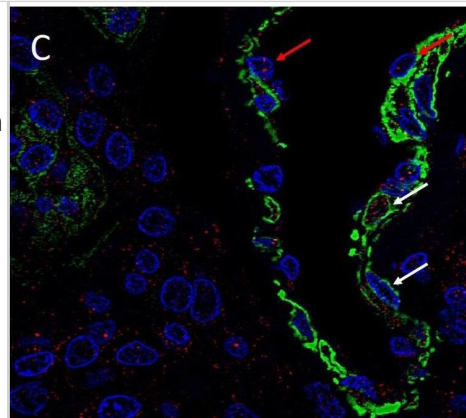
Immunohistochemistry-Paraffin: KLF4 Antibody [NBP2-24749] - Representative 3,3-diaminobenzidine immunohistochemical stained images of WHO grade I meningioma for OCT4 (A, brown), NANOG (B, purple), SOX2 (C, brown), KLF4 (D, purple) & c-MYC (E, brown) expressed on the endothelial (red arrows) & pericyte (black arrows) layers. Cell nuclei were counterstained with hematoxylin (A-E, blue). Original magnification: 400X. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/30417000>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



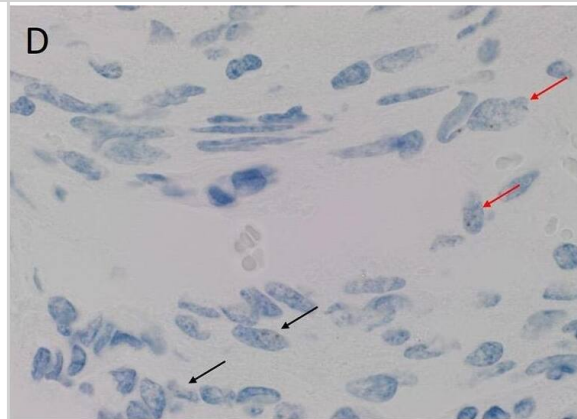
Western Blot: KLF4 Antibody [NBP2-24749] - Representative Western blot images of total protein extracted from four head & neck metastatic malignant melanoma-derived primary cell lines probed for induced pluripotent stem cell markers. Blots were probed for OCT4 (A), NANOG (B), SOX2 (C), KLF4 (D), & c-MYC (E) & detected with HRP conjugated goat anti-rabbit antibody.  $\alpha$ -Tubulin was used as the loading control (F) & detected using HRP conjugated mouse IgGk binding protein. Arrows indicate the presence of the proteins with their expected band sizes. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/32019273>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



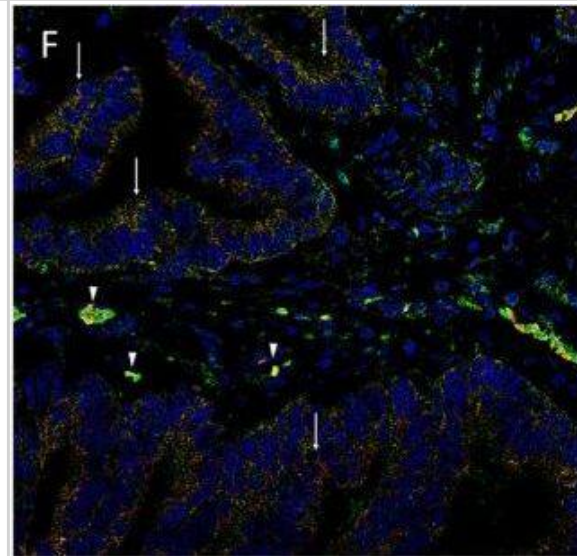
**Immunohistochemistry: KLF4 Antibody [NBP2-24749]** - Representative immunofluorescence immunohistochemical stained images of WHO grade I meningioma demonstrating the expression of SOX2 (A, red), NANOG (B, red), KLF4 (C, red), OCT4 (D, green) & c-MYC (E, green) on both the SMA+ (A–C, red, red arrows) pericyte layer, & the ERG+ endothelial layer (D,E, red, white arrows). Cell nuclei were counterstained with 4', 6'-diamino-2-phenylindole (A–F), blue. Original magnification: 600X. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/30417000>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



**Immunohistochemistry-Paraffin: KLF4 Antibody [NBP2-24749]** - Representative colorimetric in situ hybridization stained images of WHO grade I meningioma demonstrating mRNA transcript expression for OCT4 (A, brown), NANOG (B, brown), SOX2 (C, brown), KLF4 (D, brown) & c-MYC (E, brown). Nuclei were counterstained with hematoxylin (A-E, blue). Original magnification: 1,000X. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/30417000>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

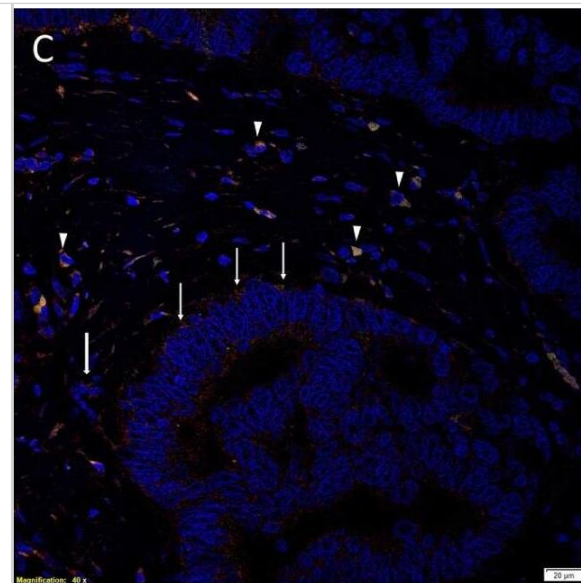


**Immunocytochemistry/ Immunofluorescence: KLF4 Antibody [NBP2-24749]** - Representative immunofluorescence immunohistochemical-stained sections of colon adenocarcinoma metastasis to the liver showing the expression of SOX2 [(A,D), red], NANOG [(B,E), red], KLF4 [(C,F), red], & c-Myc [(D–F), green] on the cells within the tumor nests (TNs) [(A–F), thin arrows] & those within the peritumoral stroma [(A–F), arrowheads]. OCT4 [(A–C), green] was expressed on the SOX2+ [(A), green, arrowheads], NANOG+ [(B), green, arrowheads], & KLF4+ [(C), green, arrowheads] cells within the peritumoral stroma. There were also cells within the peritumoral stroma that expressed SOX2 [(A), red, thick arrows], NANOG [(B), red, thick arrows] & KLF4 [(C), red, thick arrows] that did not express OCT4. c-Myc was expressed by cells within the TNs [(D–F), green, arrows] & those within the peritumoral stroma [(D–F), arrowheads]. The c-Myc+ population within the peritumoral stroma also expressed SOX2 [(D), red], NANOG [(E), red], & KLF4 [(F), red]. Cell nuclei were counterstained with 4',6'-diamidino-2-phenylindole [(A–F), blue]. Scale bars: 20  $\mu$ m. Image collected & cropped by CiteAb from the following publication (<http://journal.frontiersin.org/article/10.3389/fsurg.2017.00076/full>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Immunocytochemistry/ Immunofluorescence: KLF4 Antibody [NBP2-24749] - Representative immunofluorescence immunohistochemical-stained sections of colon adenocarcinoma metastasis to the liver showing the expression of SOX2 [(A,D), red], NANOG [(B,E), red], KLF4 [(C,F), red], & c-Myc [(D-F), green] on the cells within the tumor nests (TNs) [(A-F), thin arrows] & those within the peritumoral stroma [(A-F), arrowheads]. OCT4 [(A-C), green] was expressed on the SOX2+ [(A), green, arrowheads], NANOG+ [(B), green, arrowheads], & KLF4+ [(C), green, arrowheads] cells within the peritumoral stroma. There were also cells within the peritumoral stroma that expressed SOX2 [(A), red, thick arrows], NANOG [(B), red, thick arrows] & KLF4 [(C), red, thick arrows] that did not express OCT4. c-Myc was expressed by cells within the TNs [(D-F), green, arrows] & those within the peritumoral stroma [(D-F), arrowheads]. The c-Myc+ population within the peritumoral stroma also expressed SOX2 [(D), red], NANOG [(E), red], & KLF4 [(F), red]. Cell nuclei were counterstained with 4',6'-diamidino-2-phenylindole [(A-F), blue]. Scale bars: 20  $\mu$ m. Image collected & cropped by CiteAb from the following publication

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## Publications

Shlepova OV, Shulepko MA, Shipunova VO et al. Selective targeting of  $\alpha 7$  nicotinic acetylcholine receptor by synthetic peptide mimicking loop I of human SLURP-1 provides efficient and prolonged therapy of epidermoid carcinoma in vivo *Frontiers in cell and developmental biology* 2023-10-03 [PMID: 37854069] (WB, Mouse)

Details:

1:2000 dilution

Kilmister EJ, Patel J, van Schaijik B et al. Cancer Stem Cell Subpopulations Are Present Within Metastatic Head and Neck Cutaneous Squamous Cell Carcinoma *Frontiers in Oncology* 2020-07-30 [PMID: 32850316] (Immunohistochemistry, Immunocytochemistry/ Immunofluorescence)

Luke Krishnan CS, Brasch HD, Patel J et al. Stemness-Associated Markers Are Expressed in Extracranial Arteriovenous Malformation *Frontiers in Surgery* 2021-03-19 [PMID: 33816543]

Yamamoto H, Uchida Y, Chiba T et al. Transcriptome analysis of sevoflurane exposure effects at the different brain regions *PLOS ONE* 2020-12-15 [PMID: 33320849] (Immunohistochemistry, Western Blot, Block/Neutralize)

Imai T, Van TM, Pasparakis M, Polykratis A Smooth muscle cell specific NEMO deficiency inhibits atherosclerosis in ApoE<sup>-/-</sup> mice *Scientific reports* 2022-07-22 [PMID: 35869246] (WB, Mouse)

Paterson C, Kilmister EJ, Brasch HD Et al. Cell Populations Expressing Stemness-Associated Markers in Lung Adenocarcinoma Life (Basel, Switzerland) 2021-10-18 [PMID: 34685477] (IHC-P, Human)

Munro MJ, Peng L, Wickremesekera SK, Tan ST Colon adenocarcinoma-derived cells possessing stem cell function can be modulated using renin-angiotensin system inhibitors *PloS one* 2021-08-24 [PMID: 34428252] (ICC/IF, IF/IHC)

Williams J, Brasch H, Bockett N et al. Embryonic Stem Cell-like Population in Hypertrophic Port-wine Stain *Journal of Vascular Anomalies* 2021-02-11 (WB, IHC-P, Human)

Yoganandarajah V, Patel J et al. Identification of Cancer Stem Cell Subpopulations in Head and Neck Metastatic Malignant Melanoma. *Cells* 2020-01-30 [PMID: 32019273] (WB, IF/IHC, Human)

Kilmister E, Patel J, Bockett N et al. Embryonic stem cell-like subpopulations are present within Schwannoma *Journal of Clinical Neuroscience* 2020-11-01 [PMID: 33222917] (IF/IHC, Human)

Munro MJ, Peng L, Wickremesekera SK, Tan ST Colon adenocarcinoma-derived cells that express induced-pluripotent stem cell markers possess stem cell function *PLoS ONE* 2020-05-19 [PMID: 32428045] (WB, Human)

Zhou J, Liu S, Wang Y et al. Salinomycin effectively eliminates cancer stem-like cells and obviates hepatic metastasis in uveal melanoma *Mol. Cancer* 2019-11-13 [PMID: 31718679] (WB, Human)

More publications at <http://www.novusbio.com/NBP2-24749>





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General: novus@novusbio.com

### **Products Related to NBP2-24749**

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HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control
NBP2-52014-0.1mg	Recombinant Human KLF4 His Protein

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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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