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Datasheet for 200-301-CE9

KLF4 Antibody [4E5C3]

Overview

Description:	Anti-KLF4 (MOUSE) Antibody - 200-301-CE9
Item No.:	200-301-CE9
Size:	100 µg
Applications:	ELISA, WB
Reactivity:	Human, Mouse, Rat
Host Species:	Mouse

Product Details

Background:	KLF4 is a transcription factor that functions as both a transcriptional activator and repressor to regulate proliferation and differentiation of multiple cell types. The role of KLF4 in embryonic development suggested that it might be useful in the creation of stem cells that might be useful in cell replacement therapies in the treatment of several degenerative diseases. Artificial stem cells, termed induced pluripotent stem (iPS) cells, can be created by expressing KLF4 and the transcription factors POU5F1, Sox2, and Lin28 along with c-Myc in mouse fibroblasts. More recently, experiments have demonstrated that iPS cells could be generated using expression plasmids expressing KLF4, Sox2, POU5F1 and c-Myc, eliminating the need for virus introduction, thereby addressing a safety concern for potential use of iPS cells in regenerative medicine. KLF4 interacts directly with POU5F1 and Sox2 in iPS and ES cells and activates the target gene NANOG.
Synonyms:	KLF4 Antibody [4E5C3] , EZF, GKLF
Host Species:	Mouse
Clonality:	Monoclonal
Clone ID:	[4E5C3]
Format:	IgG1

Target Details

Gene Name:	KLF4
Reactivity:	Human, Mouse, Rat

Immunogen Type:	Conjugated Peptide
Immunogen:	Anti-KLF4 antibody was produced in mice by repeated immunizations with a 20 amino acid synthetic peptide near the C-terminus of human KLF4.
Purity/Specificity:	Anti-KLF4 Monoclonal Antibody is Protein A purified. At least three isoforms of KLF4 are known to exist; this antibody will detect all three. KLF4 antibody will not cross-react with other Kruppel-like family members.
Relevant Links:	• UniProtKB - O43474 • NCBI - NP_001300981.1 • GeneID - 9314

Application Details

Tested Applications:	ELISA, WB
Application Note:	Anti-KLF4 Antibody has been tested for use in ELISA and Western Blotting. Specific conditions for reactivity should be optimized by the end user. Expect a band at approximately 55 kDa in Western Blots of specific cell lysates and tissues. Validated in mouse samples. All other applications and species not yet tested.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:10,000
WB:	1 µg/mL

Formulation

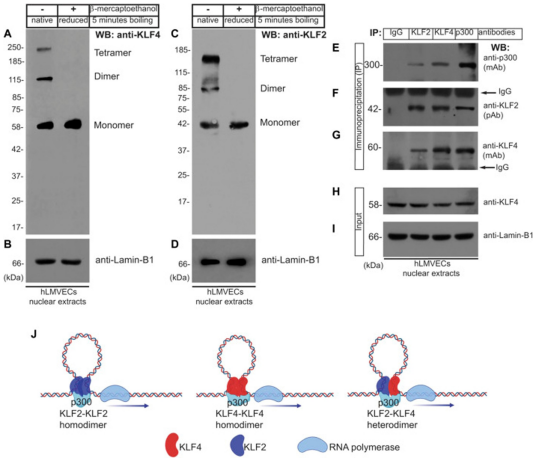
Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/ml by UV absorbance at 280 nm
Buffer:	0.01 M Sodium Phosphate, 0.25 M Sodium Chloride, pH 7.2
Preservative:	0.02% (w/v) Sodium Azide
Stabilizer:	None

Shipping & Handling

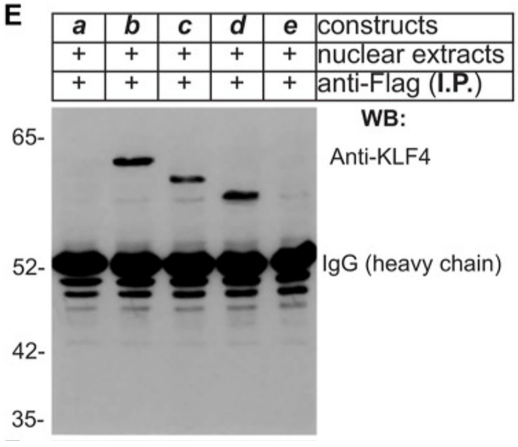
Shipping Condition:	Dry Ice

Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

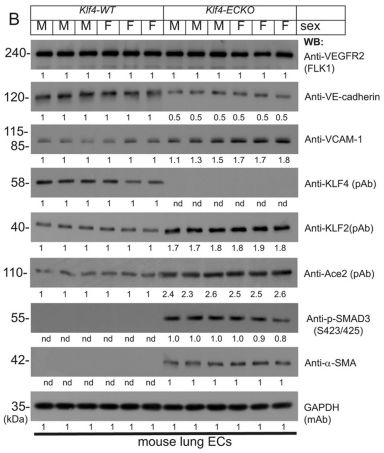
Images



Western Blot
Oligomeric KLF4 and KLF2 protein complexes in quiescent ECs. (A,C) Nuclear extracts prepared from human lung microvascular endothelial cells (hLMVECs) were boiled in native or reducing sample buffers, resolved by 9% SDS-PAGE. The presence of mono-, di-, and tetrameric anti-KLF4 and anti-KLF2 polypeptide species in native SDS-PAGE were analyzed by indicated antibodies. (B,D) Equal loading were analyzed by anti-Lamin-B1 antibody. (E–G) hLMVECs extracts were subjected to immunoprecipitation (IP) with IgG (control), anti-KLF2, anti-KLF4, and anti-p300 antibodies, and analyzed by WB with indicated antibodies. (H,I) Nuclear lysates (input) were analyzed by WB with anti-KLF4 and anti-Lamin-B1 antibodies. Molecular weights are given in kiloDalton (kDa). This experiment was repeated at least three times. (J). Models showing homodimer and heterodimer KLF2 and KLF4 protein complexes. Fig 1.
PMID: 36425528

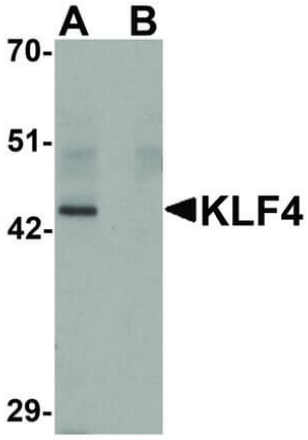


Western Blot
(E) Nuclear cell extracts were immunoprecipitated with an anti-Flag monoclonal antibody (mAb) and analyzed by WB with anti-Flag mAb.
Fig 2.
PMID: 36425528



Western Blot

(B) Lung microvascular EC protein extracts prepared from Klf 4-WT (corn oil) mice and Klf4-ECKO (+TAM) mice were analyzed by WB with indicated antibodies. VEGFR2 is expressed in all mice with no apparent change in the level of expression. The expression of VE-cadherin in ECs was decreased, while the expression of EC-Klf2, Ace2, and VCAM-1 increased, in ECs of Klf4-ECKO mice. We also observed increased phosphorylation of SMAD-3 (S423/425) and acquisition of α-SMA in all ECs that lacked Klf4. There was no change in Gapdh levels. Experiments were repeated at least 3 times. The numbers (quantification) below the WB panels show relative signal intensities.
Fig 7.
PMID: 36425528



Western Blot

Western Blot of Mouse anti-KLF4 antibody. Lane A: mouse liver tissue lysate. Lane B: mouse liver tissue lysate. Primary antibody: KLF4 antibody at 1 µg/mL overnight at 4℃. Secondary antibody: Mouse HRP secondary antibody. Block: 5% BLOTTO. Predicted/Observed size: 51 kDa, 43 kDa for KLF4.

References

- Mastej V et al. A requirement for Krüppel Like Factor-4 in the maintenance of endothelial cell quiescence. *Front Cell Dev Biol.* (2022)

Disclaimer

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