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KLF1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1794a

Product Information

Application	WB, IHC, FC, E
Primary Accession	Q13351
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	1B6A3
Isotype	IgG1
Calculated MW	38221
Description	This gene encodes a hematopoietic-specific transcription factor that induces high-level expression of adult beta-globin and other erythroid genes. The zinc-finger protein binds to the DNA sequence CCACACCCT found in the beta hemoglobin promoter. Heterozygous loss-of-function mutations in this gene result in the dominant In(Lu) blood phenotype.
Immunogen	Purified recombinant fragment of human KLF1 (AA: 208-362) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	10661
Other Names	Krueppel-like factor 1, Erythroid krueppel-like transcription factor, EKLF, KLF1, EKLF
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	KLF1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KLF1
Synonyms	EKLF

Function	Transcription regulator of erythrocyte development that probably serves as a general switch factor during erythropoiesis. Is a dual regulator of fetal-to-adult globin switching. Binds to the CACCC box in the beta-globin gene promoter and acts as a preferential activator of this gene. Furthermore, it binds to the BCL11A promoter and activates expression of BCL11A, which in turn represses the HBG1 and HBG2 genes. This dual activity ensures that, in most adults, fetal hemoglobin levels are low. Able to activate CD44 and AQP1 promoters (PubMed:21055716). When sumoylated, acts as a transcriptional repressor by promoting interaction with CDH2/MI2beta and also represses megakaryocytic differentiation.
Cellular Location	Nucleus. Note=Colocalizes with SUMO1 in nuclear speckles.
Tissue Location	Expression restricted to adult bone marrow and fetal liver. Not expressed in myeloid nor lymphoid cell lines

Background

This gene is a member of a small family of zinc finger transcription factors that play an important role in the regulation of cellular differentiation and organogenesis during vertebrate development. This gene is expressed during early embryogenesis and localizes to endo- and mesodermally derived cells during later embryogenesis and thereby plays an important role in gut, lung, and heart development. Mutations in this gene are associated with several congenital defects.

References

1. J Biol Chem. 2011 Jul 15;286(28):24819-27. 2. Nat Genet. 2010 Sep;42(9):742-4.

Images

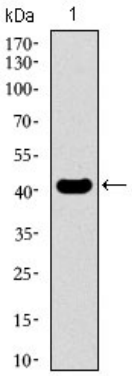

Figure 1: Western blot analysis using KLF1 mAb against human KLF1 recombinant protein. (Expected MW is 42.6 kDa)

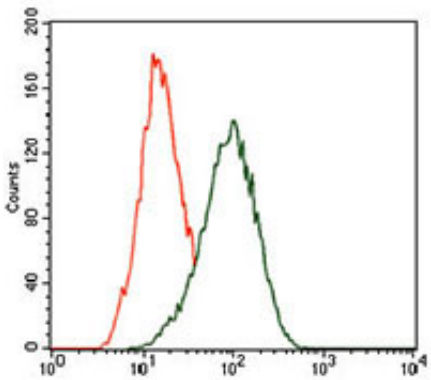

Figure 2: Flow cytometric analysis of HeLa cells using KLF1 mouse mAb (green) and negative control (red).

Figure 3: Immunohistochemical analysis of paraffin-embedded cervical cancer tissues using KLF1 mouse mAb with DAB staining.

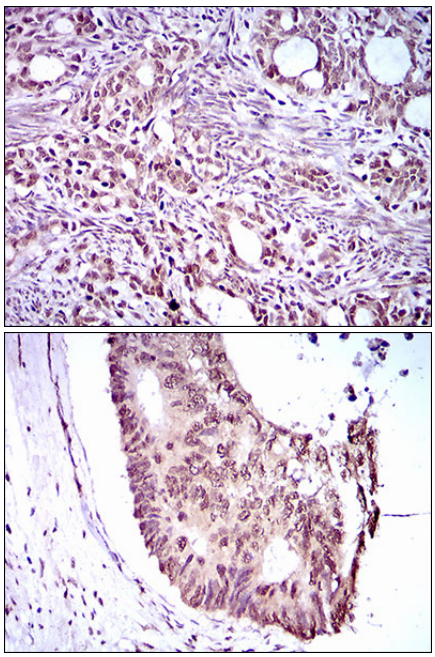

Figure 4: Immunohistochemical analysis of paraffin-embedded rectum cancer tissues using KLF1 mouse mAb with DAB staining.