

ALF (24): sc-130304

BACKGROUND

ALF (TFIIA- α/β -like factor), also known as GTF2A1L (general transcription factor IIA 1-like), is a nuclear and cytoplasmic protein that is specifically expressed in haploid spermatids in the testis. ALF is believed to play a role in spermatogenesis, functioning as a transcription factor, and is related to the large α/β subunit of TFIIA, existing as the germ cell-specific paralog. Similar to TFIIA- α/β , ALF associates with the smaller TFIIA subunit, TFIIA- γ , and functions to stabilize the interaction between TBP and DNA by binding directly to TBP and the DNA (at the TATA box), thus forming a TBP/ALF/TATA complex which mediates the transcriptional output of a gene. Low expression levels of ALF have been associated with abnormal spermatogenesis and male infertility, further implying a role for ALF in spermatogenic cell function. The transcriptional expression of ALF appears to be regulated by DNA methylation.

REFERENCES

1. Upadhyaya, A.B., Lee, S.H. and DeJong, J. 1999. Identification of a general transcription factor TFIIA- α/β homolog selectively expressed in testis. *J. Biol. Chem.* 274: 18040-18048.
2. Han, S.Y., Zhou, L., Upadhyaya, A., Lee, S.H., Parker, K.L. and DeJong, J. 2001. TFIIA- α/β -like factor is encoded by a germ cell-specific gene whose expression is upregulated with other general transcription factors during spermatogenesis in the mouse. *Biol. Reprod.* 64: 507-517.
3. Xie, W., Han, S., Khan, M. and DeJong, J. 2002. Regulation of ALF gene expression in somatic and male germ line tissues involves partial and site-specific patterns of methylation. *J. Biol. Chem.* 277: 17765-17774.
4. Han, S., Xie, W., Kim, S.H., Yue, L. and DeJong, J. 2004. A short core promoter drives expression of the ALF transcription factor in reproductive tissues of male and female mice. *Biol. Reprod.* 71: 933-941.
5. Catena, R., Argentini, M., Martianov, I., Parello, C., Brancorsini, S., Parvinen, M., Sassone-Corsi, P. and Davidson, I. 2005. Proteolytic cleavage of ALF into α and β subunits that form homologous and heterologous complexes with somatic TFIIA and TRF2 in male germ cells. *FEBS Lett.* 579: 3401-3410.
6. Kim, M., Li, D., Cui, Y., Mueller, K., Cheers, W.C. and DeJong, J. 2006. Regulatory factor interactions and somatic silencing of the germ cell-specific ALF gene. *J. Biol. Chem.* 281: 34288-34298.
7. Xiao, L., Kim, M. and DeJong, J. 2006. Developmental and cell type-specific regulation of core promoter transcription factors in germ cells of frogs and mice. *Gene Expr. Patterns* 6: 409-419.

CHROMOSOMAL LOCATION

Genetic locus: GTF2A1L (human) mapping to 2p16.3.

SOURCE

ALF (24) is a mouse monoclonal antibody raised against recombinant ALF of human origin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ALF (24) is available conjugated to agarose (sc-130304 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-130304 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-130304 PE), fluorescein (sc-130304 FITC), Alexa Fluor[®] 488 (sc-130304 AF488), Alexa Fluor[®] 546 (sc-130304 AF546), Alexa Fluor[®] 594 (sc-130304 AF594) or Alexa Fluor[®] 647 (sc-130304 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-130304 AF680) or Alexa Fluor[®] 790 (sc-130304 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ALF (24) is recommended for detection of ALF of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

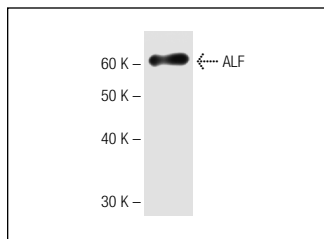
Suitable for use as control antibody for ALF siRNA (h): sc-72482, ALF shRNA Plasmid (h): sc-72482-SH and ALF shRNA (h) Lentiviral Particles: sc-72482-V.

Molecular Weight of ALF: 53 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



ALF (24): sc-130304. Western blot analysis of human recombinant ALF.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.