

ALF (H-57): sc-292178

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., et al. 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., et al. 2001. TFIIA α/β -like factor is encoded by a germ cell-specific gene whose expression is up-regulated with other general transcription factors during spermatogenesis in the mouse. *Biol. Reprod.* 64: 507-517.
3. Xie, W., et al. 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., et al. 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., et al. 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., et al. 2006. Regulatory factor interactions and somatic silencing of the germ cell-specific ALF gene. *J. Biol. Chem.* 281: 34288-34298.

CHROMOSOMAL LOCATION

Genetic locus: GTF2A1L (human) mapping to 2p16.3; Gtf2a1l (mouse) mapping to 17 E4.

SOURCE

ALF (H-57) is a rabbit polyclonal antibody raised against amino acids 18-74 mapping near the N-terminus of ALF of human origin.

PRODUCT

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

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-292178 X, 200 μ g/0.1 ml.

APPLICATIONS

ALF (H-57) is recommended for detection of ALF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ALF (H-57) is also recommended for detection of ALF in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ALF siRNA (h): sc-72482, ALF siRNA (m): sc-72483, ALF shRNA Plasmid (h): sc-72482-SH, ALF shRNA Plasmid (m): sc-72483-SH, ALF shRNA (h) Lentiviral Particles: sc-72482-V and ALF shRNA (m) Lentiviral Particles: sc-72483-V.

ALF (H-57) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

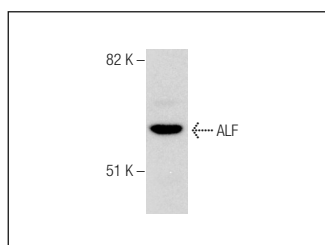
Molecular Weight of ALF: 53 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ALF (H-57): sc-292178. Western blot analysis of ALF expression in Jurkat nuclear extract.

STORAGE

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

RESEARCH USE

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