

ALY (11G5): sc-32311

BACKGROUND

ALY (also designated THO complex subunit 4, THOC4, REF1, Refbp1 and BEF) is the mammalian homolog of the yeast mRNA export factor Yralp. A transcriptional coactivator, ALY belongs to the cytidylyltransferase family and is important in mRNA processing and export. During spliceosome assembly, it is recruited to messenger ribonucleoprotein (mRNP) complexes and becomes tightly associated with the spliced mRNP. Consistent with splicing-dependent recruitment, ALY co-localizes with splicing factors in the nucleus. It promotes transcriptional activation by promoting the dimerization of transcription factors containing basic leucine zipper domains. Although ubiquitously expressed, ALY specifically associates with the activation domains of LEF-1 and AML-1, both of which are protein components of the TCR a enhancer complex. Research indicates that ALY may mediate context-dependent transcriptional activation by facilitating the functional collaboration of multiple proteins in the TCR a enhancer complex.

CHROMOSOMAL LOCATION

Genetic locus: ALYREF (human) mapping to 17q25.3; Alyref (mouse) mapping to 11 E2.

SOURCE

ALY (11G5) is a mouse monoclonal antibody raised against recombinant human ALY/REF fusion protein.

PRODUCT

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

ALY (11G5) is available conjugated to agarose (sc-32311 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32311 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32311 PE), fluorescein (sc-32311 FITC), Alexa Fluor[®] 488 (sc-32311 AF488), Alexa Fluor[®] 546 (sc-32311 AF546), Alexa Fluor[®] 594 (sc-32311 AF594) or Alexa Fluor[®] 647 (sc-32311 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-32311 AF680) or Alexa Fluor[®] 790 (sc-32311 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ALY (11G5) is recommended for detection of ALY of mouse, rat, human and *Xenopus laevis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for ALY siRNA (h): sc-45390, ALY siRNA (m): sc-38248, ALY shRNA Plasmid (h): sc-45390-SH, ALY shRNA Plasmid (m): sc-38248-SH, ALY shRNA (h) Lentiviral Particles: sc-45390-V and ALY shRNA (m) Lentiviral Particles: sc-38248-V.

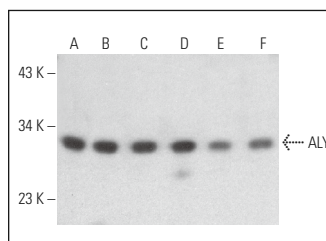
Molecular Weight of ALY: 32 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, MOLT-4 cell lysate: sc-2233 or Hep G2 cell lysate: sc-2227.

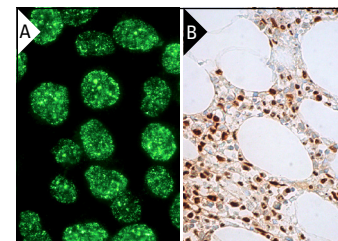
STORAGE

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

DATA



ALY (11G5): sc-32311. Western blot analysis of ALY expression in Jurkat (A), MOLT-4 (B), Hep G2 (C), Neuro-2A (D), C3H/10T1/2 (E) and NRK (F) whole cell lysates.



ALY (11G5): sc-32311. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing nuclear staining of hematopoietic cells (B).

SELECT PRODUCT CITATIONS

- Jiang, D., et al. 2008. Purification and identification of positive regulators binding to a novel element in the c-Jun promoter. *Biochemistry* 47: 9318-9334.
- Falaleeva, M., et al. 2016. Dual function of C/D box small nucleolar RNAs in rRNA modification and alternative pre-mRNA splicing. *Proc. Natl. Acad. Sci. USA* 113: E1625-E1634.
- Zhou, H., et al. 2017. IRAK2 directs stimulus-dependent nuclear export of inflammatory mRNAs. *Elife* 6: e29630.
- Munschauer, M., et al. 2018. The NORAD lncRNA assembles a topoisomerase complex critical for genome stability. *Nature* 561: 132-136.
- Oqani, R.K., et al. 2019. lws1 and Spt6 regulate trimethylation of Histone H3 on lysine 36 through Akt signaling and are essential for mouse embryonic genome activation. *Sci. Rep.* 9: 3831.
- Shibata, T., et al. 2021. Small molecule targeting r(UGGAA)_n disrupts RNA foci and alleviates disease phenotype in *Drosophila* model. *Nat. Commun.* 12: 236.
- Duan, L., et al. 2022. Nuclear RNA binding regulates TDP-43 nuclear localization and passive nuclear export. *Cell Rep.* 40: 111106.
- Ihashi, S., et al. 2023. Incomplete activation of Alyref and Gabpb1 leads to preimplantation arrest in cloned mouse embryos. *Life Sci. Alliance* 6: e202302296.
- Yuan, Y., et al. 2024. Identification of ALYREF in pan cancer as a novel cancer prognostic biomarker and potential regulatory mechanism in gastric cancer. *Sci. Rep.* 14: 6270.

RESEARCH USE

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

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA