SANTA CRUZ BIOTECHNOLOGY, INC.

ETO (3H11): sc-134335

BACKGROUND

ETO and ETO-2, which are alternatively designated MTG8 and MTG16, respectively, are members of the ETO transcription factor family. These transcription factors are characterized by a zinc-finger domain and four conserved domains, of which domain II is required for dimerization between family members. ETO and ETO-2 may function to mediate interactions between DNA binding proteins and transcriptional regulators, such as N-CoR. Frequently, the t(8;21) translocation of ETO produces the AML-1/ETO oncoprotein, which consists of the first 177 amino acids of AML-1 and all but the first 30 amino acids of ETO. AML-1/ETO expression is observed in 12-15% of acute myelogenous, M2 subtype leukemias. The AML-1/ETO fusion proteins associate with multimeric N-CoR/mSin3/HDAC1 complexes, block differentiation and induce transcriptional repression by altering chromatin remodeling.

REFERENCES

1. Erickson, P.F., et al. 1994. The ETO portion of acute myeloid leukemia t(8;21) fusion transcript encodes a highly evolutionarily conserved, putative transcription factor. Cancer Res. 54: 1782-1786.
2. Erickson, P.F., et al. 1996. ETO and AML1 phosphoproteins are expressed in $CD34^+$ hematopoietic progenitors: implications for t(8;21) leukemogenesis and monitoring residua disease. Blood 88: 1813-1823.
3. Wolford, J.K., et al. 1998. Structure and expression of the human MTG8/ETO gene. Gene 212: 103-109.
4. Wang, J., et al. 1998. ETO, fusion partner in t(8;21) acute myeloid leukemia, represses transcription by interaction with the human N-CoR/mSin3/HDAC1 complex. Proc. Natl. Acad. Sci. USA 95: 10860-10865.
5. Westendorf, J.J., et al. 1998. The t(8;21) fusion product, AML-1-ETO, associates with C/EBP-α, inhibits C/EBP-α-dependent transcription, and blocks granulocytic differentiation. Mol. Cell. Biol. 18: 322-333.
6. Wang, J., et al. 1999. Inhibitors of histone deacetylase relieve ETO-mediated repression and induce differentiation of AML1-ETO leukemia cells. Cancer Res. 59: 2766-2769.
7. Davis, J.N., et al. 1999. ETO-2, a new member of the ETO-family of nuclear proteins. Oncogene 18: 1375-1383.

CHROMOSOMAL LOCATION

Genetic locus: RUNX1T1 (human) mapping to 8q21.3; Runx1t1 (mouse) mapping to 4 A1.

SOURCE

ETO (3H11) is a mouse monoclonal antibody raised against recombinant ETO protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

ETO (3H11) is recommended for detection of ETO of mouse, rat and human 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ETO siRNA (h): sc-35342, ETO siRNA (m): sc-35343, ETO shRNA Plasmid (h): sc-35342-SH, ETO shRNA Plasmid (m): sc-35343-SH, ETO shRNA (h) Lentiviral Particles: sc-35342-V and ETO shRNA (m) Lentiviral Particles: sc-35343-V.

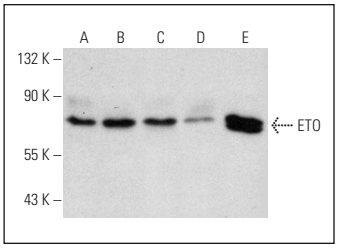
Molecular Weight of ETO: 70 kDa.

Positive Controls: AML-193 whole cell lysate, CCRF-CEM cell lysate: sc-2225 or Hep G2 cell lysate: sc-2227.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



ETO (3H11): sc-134335. Western blot analysis of ETO expression in AML-193 (**A**), CCRF-CEM (**B**), HL-60 (**C**), MOLT-4 (**D**) and Hep G2 (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chai, Y., et al. 2018. Polyphyllin I inhibits proliferation and induces apoptosis by downregulating AML1-ETO and suppressing C-KIT/Akt signaling in t(8;21) acute myeloid leukemia. Chem. Biodivers. 15: e1800314.
2. Celik, H., et al. 2018. JARID2 functions as a tumor suppressor in myeloid neoplasms by repressing self-renewal in hematopoietic progenitor cells. Cancer Cell 34: 741-756.e8.
3. Krivdova, G., et al. 2022. Identification of the global miR-130a targetome reveals a role for TBL1XR1 in hematopoietic stem cell self-renewal and t(8;21) AML. Cell Rep. 38: 110481.

STORAGE

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