SANTA CRUZ BIOTECHNOLOGY, INC.

NF-E4 (G-14): sc-168746

BACKGROUND

Transcription factor NF-E4, also known as fetal globin activator NF-E4 or γ-globin gene activator, is an erythroid-specific protein that associates with LBP-1C to form the SSP (stage selector protein) complex. The SSP complex influences expression of γ-globin genes in fetal erythroid cells. Containing 179 amino acids, NF-E4 localizes to nucleus and is expressed in fetal liver, bone marrow and cord blood, as well as HEL and K562 cell lines. NF-E4 exists as two alternatively spliced isoforms, designated isoform 1 and 2, or p22 NF-E4 and p14 NF-E4, respectively. p14 NF-E4 interacts with NF-E2 and RNA polymerase II to repress γ- and ε-globin gene expression. The gene encoding NF-E4 maps to human chromosome 7q22.1.

REFERENCES

1. Zhou, W., et al. 2000. Induction of human fetal globin gene expression by a novel erythroid factor, NF-E4. Mol. Cell. Biol. 20: 7662-7672.
2. Zhou, W., et al. 2004. The role of p22 NF-E4 in human globin gene switching. J. Biol. Chem. 279: 26227-26232.
3. Zhao, Q., et al. 2004. Site-specific acetylation of the fetal globin activator NF-E4 prevents its ubiquitination and regulates its interaction with the histone deacetylase, HDAC1. J. Biol. Chem. 279: 41477-41486.
4. Zhao, Q., et al. 2006. Repression of human γ-globin gene expression by a short isoform of the NF-E4 protein is associated with loss of NF-E2 and RNA polymerase II recruitment to the promoter. Blood 107: 2138-2145.
5. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612133. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Zhao, Q., et al. 2009. PRMT5-mediated methylation of histone H4R3 recruits DNMT3A, coupling histone and DNA methylation in gene silencing. Nat. Struct. Mol. Biol. 16: 304-311.

CHROMOSOMAL LOCATION

Genetic locus: NFE4 (human) mapping to 7q22.1.

SOURCE

NF-E4 (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NF-E4 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-168746 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

NF-E4 (G-14) is recommended for detection of NF-E4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Molecular Weight of NF-E4 isoforms: 19/8 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

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