SANTA CRUZ BIOTECHNOLOGY, INC.

# NF-E2 (G-2): sc-514429

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

The nuclear DNA binding protein NF-E2 regulates expression of globulin genes in developing erythroid cells through interaction with upstream AP-1-like recognition sites. More specifically, NF-E2 recognizes a site containing an intact AP-1 binding motif, preceded by a G residue two base pairs upstream. NF-E2 is an obligate heterodimer composed of NF-E2 p45 and NF-E2 p18. NF-E2 p18, also known as NF-E2U or MAFK, is a ubiquitously expressed component that is related to the v-Maf oncogene. It contains a basic-leucine zipper domain that functions in DNA binding and dimerization. In addition, NF-E2 p18 may play a role in erythroid differentiation. The major component of NF-E2 is a polypeptide, designated NF-E2 p45, that belongs to the basic region-leucine zipper family of transcription factors. This subunit of NF-E2 is specifically expressed at low level in hematopoietic progenitor cells and differentiated cells of the erythroid, megakaryocyte and mast cell lineages.

## REFERENCES


1. Mignotte, V., et al. 1989. Two tissue-specific factors bind the erythroid promoter of the human porphobilinogen deaminase gene. Nucleic Acids Res. 17: 37-54.
2. Philipsen, S., et al. 1990. The β-globin dominant control region: hypersensitive site 2. EMBO J. 9: 2159-2167.
3. Ney, P.A., et al. 1990. Tandem AP-1-binding sites within the human β-globin dominant control region function as an inducible enhancer in erythroid cells. Genes Dev. 4: 993-1006.
4. Jarman, A.P., et al. 1991. Characterization of the major regulatory element upstream of the human α-globin gene cluster. Mol. Cell. Biol. 11: 4679-4689.
5. Andrews, N.C., et al. 1993. Erythroid transcription factor NF-E2 is a haematopoietic-specific basic-leucine zipper protein. Nature 362: 722-728.
6. Peters, L.L., et al. 1993. Mouse microcytic anaemia caused by a defect in the gene encoding the globin enhancer-binding protein NF-E2. Nature 362: 768-770.
7. Igarashi, K., et al. 1994. Regulation of transcription by dimerization of erythroid factor NF-E2 p45 with small Maf proteins. Nature 367: 568-572.
8. Kataoka, K., et al. 1995. Small Maf proteins heterodimerize with Fos and may act as competitive repressors of the NF-E2 transcription factor. Mol. Cell. Biol. 15: 2180-2190.


## CHROMOSOMAL LOCATION

Genetic locus: NFE2 (human) mapping to 12q13.13.

## SOURCE

NF-E2 (G-2) is a mouse monoclonal antibody raised against amino acids 1-230 of NF-E2 of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-514429 X, 200 µg/0.1 ml.

## APPLICATIONS

NF-E2 (G-2) is recommended for detection of NF-E2 of human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NF-E2 siRNA (h): sc-36046, NF-E2 shRNA Plasmid (h): sc-36046-SH and NF-E2 shRNA (h) Lentiviral Particles: sc-36046-V.

NF-E2 (G-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

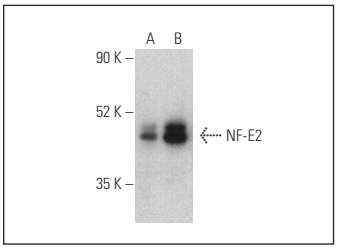
Molecular Weight of NF-E2: 45 kDa.

Positive Controls: K-562 nuclear extract: sc-2130 or MEG-01 nuclear extract: sc-2150.

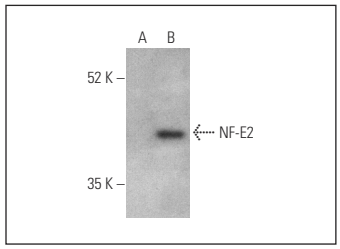
## RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA




NF-E2 (G-2): sc-514429. Western blot analysis of NF-E2 expression in K-562 (**A**) and MEG-01 (**B**) nuclear extracts. Detection reagent used: m-$IgG_1$ BP-HRP: sc-525408.




NF-E2 (G-2): sc-514429. Western blot analysis of NF-E2 expression in non-transfected: sc-117752 (**A**) and mouse NF-E2 transfected: sc-122031 (**B**) 293T whole cell lysates.

## 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.