

## NF-YA (G-2): sc-17753



The Power to Question

## BACKGROUND

The CCAAT-binding factor NF-Y is a heteromeric transcription factor that specifically binds to CCAAT sequences in many eukaryotic genes. NF-Y is made up of three subunits, NF-YA, NF-YB and NF-YC. All three components are necessary for DNA binding. In each NF-Y subunit, the segment needed for formation of the NF-Y-DNA complex is conserved from yeast to human. These conserved segments are homologous to the histone-fold motif of eukaryotic histones. The DNA binding domains of the NF-YB and NF-YC subunits have been suggested to interact through a protein-protein histone-fold "handshake" motif in a manner analogous to the histone proteins, H2B and H2A, respectively.

## CHROMOSOMAL LOCATION

Genetic locus: NFYA (human) mapping to 6p21.1; Nfya (mouse) mapping to 17 C.

## SOURCE

NF-YA (G-2) is a mouse monoclonal antibody raised against amino acids 139-347 of NF-YA of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> 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-17753 X, 200 µg/0.1 ml.

NF-YA (G-2) is available conjugated to agarose (sc-17753 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17753 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17753 PE), fluorescein (sc-17753 FITC), Alexa Fluor® 488 (sc-17753 AF488), Alexa Fluor® 546 (sc-17753 AF546), Alexa Fluor® 594 (sc-17753 AF594) or Alexa Fluor® 647 (sc-17753 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17753 AF680) or Alexa Fluor® 790 (sc-17753 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

NF-YA (G-2) is recommended for detection of NF-YA of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:200-1:1,000), 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NF-YA (G-2) is also recommended for detection of NF-YA in additional species, including equine and porcine.

Suitable for use as control antibody for NF-YA siRNA (h): sc-29947, NF-YA siRNA (m): sc-29948, NF-YA shRNA Plasmid (h): sc-29947-SH, NF-YA shRNA Plasmid (m): sc-29948-SH, NF-YA shRNA (h) Lentiviral Particles: sc-29947-V and NF-YA shRNA (m) Lentiviral Particles: sc-29948-V.

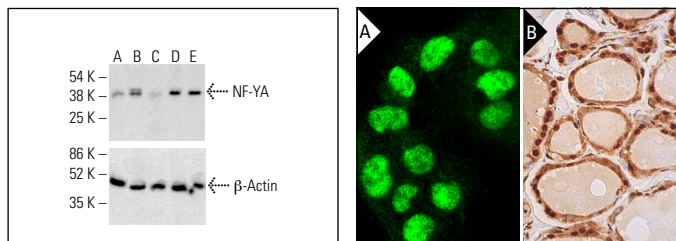
NF-YA (G-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of NF-YA: 30-50 kDa.

## STORAGE

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

## DATA



NF-YA (G-2): sc-17753. Western blot analysis of NF-YA expression in HeLa (A), K-562 (B), untreated HCT-116 (C) and chemically-treated HCT-116 (D, E) whole cell lysates. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

NF-YA (G-2): sc-17753. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing nuclear and cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

1. Luo, D. and Rando, T.A. 2003. The regulation of catalase gene expression in mouse muscle cells is dependent on the CCAAT-binding factor NF-Y. *Biochem. Biophys. Res. Commun.* 303: 609-618.
2. Chen, P.M., et al. 2015. NKX2-1-mediated p53 expression modulates lung adenocarcinoma progression via modulating IKKβ/NFκB activation. *Oncotarget* 6: 14274-14289.
3. Xu, Z., et al. 2016. NF-YA promotes invasion and angiogenesis by upregulating EZH2-STAT3 signaling in human melanoma cells. *Oncol. Rep.* 35: 3630-3638.
4. Suske, G. 2017. NF-Y and SP transcription factors—new insights in a long-standing liaison. *Biochim. Biophys. Acta Gene Regul. Mech.* 1860: 590-597.
5. Kim, M.Y., et al. 2018. Mbd2-CP2c loop drives adult-type globin gene expression and definitive erythropoiesis. *Nucleic Acids Res.* 46: 4933-4949.
6. Dolfini, D., et al. 2019. Overexpression and alternative splicing of NF-YA in breast cancer. *Sci. Rep.* 9: 12955.
7. Zhang, Z., et al. 2020. Collaborative interactions of heterogeneous ribonucleoproteins contribute to transcriptional regulation of sterol metabolism in mice. *Nat. Commun.* 11: 984.
8. Vanzan, L., et al. 2021. High throughput screening identifies SOX2 as a super pioneer factor that inhibits DNA methylation maintenance at its binding sites. *Nat. Commun.* 12: 3337.
9. Asimi, V., et al. 2022. Hijacking of transcriptional condensates by endogenous retroviruses. *Nat. Genet.* 54: 1238-1247.

## RESEARCH USE

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

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