

# RUNX3 (R3-5G4): sc-101553

## BACKGROUND

The mammalian Runt-related transcription factor (RUNX) family comprises three members, RUNX1 (also designated AML-1, PEBP2 $\alpha$ B, CBFA2), RUNX2 (also designated AML-3, PEBP2 $\alpha$ A, CBFA1, Osf2) and RUNX3 (also designated AML-2, PEBP $\alpha$ C, CBFA3), and belongs to the acute myeloid leukemia (AML) family. RUNX family members are DNA-binding proteins that regulate the expression of genes involved in cellular differentiation and cell cycle progression. RUNX3 is expressed in cells of hematopoietic origin, including myeloid and B cell lines and spleen. By playing a role in controlling the growth and differentiation of gastric epithelial cells, RUNX3 is a strong candidate as a gastric cancer tumor suppressor. Specifically, hypermethylation inactivates the gene encoding RUNX3. The detection of hypermethylation at multiple regions within the RUNX3 CpG island may aid in the diagnosis and risk assessment of gastric cancer.

## CHROMOSOMAL LOCATION

Genetic locus: RUNX3 (human) mapping to 1p36.11.

## SOURCE

RUNX3 (R3-5G4) is a mouse monoclonal antibody raised against amino acids 191-300 of recombinant RUNX3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RUNX3 (R3-5G4) is available conjugated to agarose (sc-101553 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101553 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101553 PE), fluorescein (sc-101553 FITC), Alexa Fluor® 488 (sc-101553 AF488), Alexa Fluor® 546 (sc-101553 AF546), Alexa Fluor® 594 (sc-101553 AF594) or Alexa Fluor® 647 (sc-101553 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-101553 AF680) or Alexa Fluor® 790 (sc-101553 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

RUNX3 (R3-5G4) is recommended for detection of RUNX3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 RUNX3 siRNA (h): sc-37679, RUNX3 shRNA Plasmid (h): sc-37679-SH and RUNX3 shRNA (h) Lentiviral Particles: sc-37679-V.

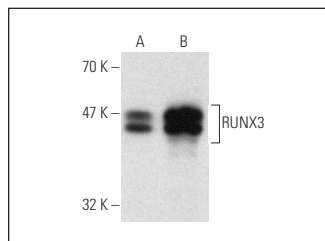
Molecular Weight of RUNX3 full length isoforms: 48/46 kDa.

Positive Controls: MEG-01 nuclear extract: sc-2150 or U266 whole cell lysate: sc-364800.

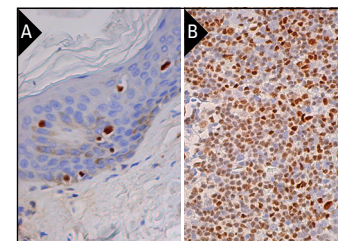
## STORAGE

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

## DATA



RUNX3 (R3-5G4): sc-101553. Western blot analysis of RUNX3 expression in MEG-01 nuclear extract (A) and U266 whole cell lysate (B).



RUNX3 (R3-5G4): sc-101553. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing nuclear staining of Langerhans cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of cells in germinal center and cells in non-germinal center (B).

## SELECT PRODUCT CITATIONS

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- Gunnell, A., et al. 2016. RUNX super-enhancer control through the Notch pathway by Epstein-Barr virus transcription factors regulates B cell growth. *Nucleic Acids Res.* 44: 4636-4650.
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- Bermudez, L.G., et al. 2021. RUNX1 gene expression changes in the placentas of women smokers. *Exp. Ther. Med.* 22: 902.
- Kanumuri, R., et al. 2021. Small peptide inhibitor from the sequence of RUNX3 disrupts PAK1-RUNX3 interaction and abrogates its phosphorylation-dependent oncogenic function. *Oncogene* 40: 5327-5341.

## RESEARCH USE

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