

# NUT (M-13): sc-165143

## BACKGROUND

NUT (nuclear protein in testis), also known as C15orf55, is a 1,132 amino acid protein that is specifically expressed in testis. Belonging to the FAM22 family, NUT shuttles between nucleus and cytoplasm via a leptomycin-sensitive pathway. It is suggested that the translocation of the NUT gene is the cause of nuclear protein in testis midline carcinomas (NMC). NMCs are highly aggressive carcinomas typically arising in midline structures in young individuals. These carcinomas are characterized by the presence of a chromosomal rearrangement of the NUT gene on chromosome 15 (15q14), which results in a chromosomal translocation most commonly involving the BRD4 gene on chromosome 19p13. Endogenous BRD-NUT fusion proteins contribute to carcinogenesis by associating with chromatin and interfering with epithelial differentiation.

## REFERENCES

1. French, C.A., et al. 2003. BRD4-NUT fusion oncogene: a novel mechanism in aggressive carcinoma. *Cancer Res.* 63: 304-307.
2. French, C.A., et al. 2004. Midline carcinoma of children and young adults with NUT rearrangement. *J. Clin. Oncol.* 22: 4135-4139.
3. Engleson, J., et al. 2006. Midline carcinoma with t(15;19) and BRD4-NUT fusion oncogene in a 30-year-old female with response to docetaxel and radiotherapy. *BMC Cancer* 6: 69.
4. Stelow, E.B., et al. 2008. NUT rearrangement in undifferentiated carcinomas of the upper aerodigestive tract. *Am. J. Surg. Pathol.* 32: 828-834.
5. French, C.A., et al. 2008. BRD-NUT oncoproteins: a family of closely related nuclear proteins that block epithelial differentiation and maintain the growth of carcinoma cells. *Oncogene* 27: 2237-2242.
6. Stelow, E.B. and French, C.A. 2009. Carcinomas of the upper aerodigestive tract with rearrangement of the nuclear protein of the testis (NUT) gene (NUT midline carcinomas). *Adv. Anat. Pathol.* 16: 92-96.
7. den Bakker, M.A., et al. 2009. NUT midline carcinoma of the parotid gland with mesenchymal differentiation. *Am. J. Surg. Pathol.* 33: 1253-1258.

## CHROMOSOMAL LOCATION

Genetic locus: BC125332 (mouse) mapping to 2 E3.

## SOURCE

NUT (M-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of NUT of mouse 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-165143 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

NUT (M-13) is recommended for detection of NUT of mouse and rat 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)], 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 NUT siRNA (m): sc-150129, NUT shRNA Plasmid (m): sc-150129-SH and NUT shRNA (m) Lentiviral Particles: sc-150129-V.

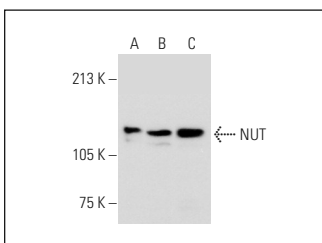
Molecular Weight of NUT: 120 kDa.

Positive Controls: rat testis extract: sc-2400, mouse testis extract: sc-2405 or F9 cell lysate: sc-2245.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



NUT (M-13): sc-165143. Western blot analysis of NUT expression in rat testis (A) and mouse testis (B) tissue extracts and F9 whole cell lysate (C).

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.