

# NOK (2H2F10): sc-81701

## BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. NOK (novel oncogene with kinase domain), also known as STYK1 (serine/threonine/tyrosine kinase 1), is a 422 amino acid single-pass membrane protein that belongs to the protein kinase superfamily. Highly expressed in brain, prostate and placenta with lower levels of expression in non-cancerous lung tissue, NOK functions as a receptor protein tyrosine kinase that influences cell proliferation, differentiation and survival. NOK contains one protein kinase domain and is overexpressed in ovarian cancer, cervical cancer and chronic myelogenous leukemia, suggesting an important role for NOK in tumorigenesis.

## REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611433. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Ye, X., et al. 2003. Isolation and characterization of a human putative receptor protein kinase cDNA STYK1. *Mol. Biol. Rep.* 30: 91-96.
3. Liu, L., et al. 2004. A novel protein tyrosine kinase NOK that shares homology with platelet-derived growth factor/fibroblast growth factor receptors induces tumorigenesis and metastasis in nude mice. *Cancer Res.* 64: 3491-3499.
4. Moriai, R., et al. 2006. Diagnostic relevance of overexpressed NOK mRNA in breast cancer. *Anticancer Res.* 26: 4969-4973.
5. Amachika, T., et al. 2007. Diagnostic relevance of overexpressed mRNA of novel oncogene with kinase-domain (NOK) in lung cancers. *Lung Cancer* 56: 337-340.
6. Greenman, C., et al. 2007. Patterns of somatic mutation in human cancer genomes. *Nature* 446: 153-158.
7. Kimbro, K.S., et al. 2008. A novel gene STYK1/NOK is upregulated in estrogen receptor- $\alpha$  negative estrogen receptor- $\beta$  positive breast cancer cells following estrogen treatment. *Mol. Biol. Rep.* 35: 23-27.
8. Xu, F., et al. 2008. Preparation of anti-hNOK antibodies and expression examination of NOK in the lung cancer tissues. *Sheng Wu Gong Cheng Xue Bao* 24: 480-484.

## CHROMOSOMAL LOCATION

Genetic locus: STYK1 (human) mapping to 12p13.2.

## SOURCE

NOK (2H2F10) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 50-225 of NOK of human origin.

## STORAGE

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

## PRODUCT

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

NOK (2H2F10) is available conjugated to agarose (sc-81701 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-81701 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-81701 PE), fluorescein (sc-81701 FITC), Alexa Fluor<sup>®</sup> 488 (sc-81701 AF488), Alexa Fluor<sup>®</sup> 546 (sc-81701 AF546), Alexa Fluor<sup>®</sup> 594 (sc-81701 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-81701 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-81701 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-81701 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

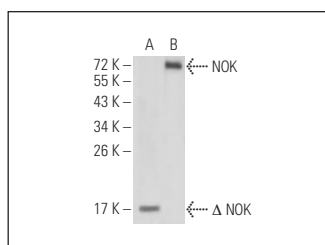
NOK (2H2F10) is recommended for detection of NOK of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for NOK siRNA (h): sc-95937, NOK shRNA Plasmid (h): sc-95937-SH and NOK shRNA (h) Lentiviral Particles: sc-95937-V.

Molecular Weight of NOK: 48 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

## DATA



NOK (2H2F10): sc-81701. Western blot analysis of truncated human recombinant NOK protein (A) and NOK expression in NOK transfected CHO-K1 cells (B).

## SELECT PRODUCT CITATIONS

1. Huang, Z., et al. 2019. Aberrantly high expression of NOK/STYK1 is tightly associated with the activation of the AKT/GSK3 $\beta$ /N-cadherin pathway in non-small cell lung cancer. *Oncotargets Ther.* 12: 10299-10309.

## RESEARCH USE

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

## PROTOCOLS

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