

# SETD6 (Y-18): sc-248568

## BACKGROUND

SETD6 (SET domain-containing protein 6) is a 473 amino acid protein that belongs to the SETD6 family. Containing one SET domain, SETD6 is structurally similar to the Rubisco large subunit methyltransferase. SETD6 is a protein-lysine N-methyltransferase that specifically monomethylates "Lys-310" of the NFκB p65 subunit of NFκB complex, leading to down-regulate NFκB transcription factor activity. SETD6-mediated methylation renders NFκB p65 inert and attenuates NFκB p65-driven transcriptional programs, including inflammatory responses in primary immune cells. The SETD6-initiated lysine-methylation signaling cascade acts to restrain activation of NFκB-mediated inflammatory responses in diverse cell types. Existing as two alternatively spliced isoforms, the SETD6 gene is conserved in canine, bovine, mouse, rat, chicken, zebrafish, *M.grisea* and *N.crassa*, and maps to human chromosome 16q21.

## REFERENCES

1. Sun, X.J., et al. 2008. Genome-wide survey and developmental expression mapping of zebrafish SET domain-containing genes. *PLoS ONE* 3: e1499.
2. Stark, G.R., et al. 2011. Lysine methylation of promoter-bound transcription factors and relevance to cancer. *Cell Res.* 21: 375-380.
3. Yang, X.D., et al. 2011. Talking to histone: methylated RelA serves as a messenger. *Cell Res.* 21: 561-563.
4. Shinkai, Y., et al. 2011. H3K9 methyltransferase G9a and the related molecule GLP. *Genes Dev.* 25: 781-788.
5. Petrossian, T.C., et al. 2011. Uncovering the human methyltransferasome. *Mol. Cell. Proteomics* 10: M110.000976.
6. Moscat, J., et al. 2011. Fine tuning NFκB: new openings for PKC-ζ. *Nat. Immunol.* 12: 12-14.
7. Levy, D., et al. 2011. Lysine methylation of the NFκB subunit RelA by SETD6 couples activity of the histone methyltransferase GLP at chromatin to tonic repression of NFκB signaling. *Nat. Immunol.* 12: 29-36.
8. Chang, Y., et al. 2011. Structural basis of SETD6-mediated regulation of the NFκB network via methyl-lysine signaling. *Nucleic Acids Res.* 39: 6380-6389.

## CHROMOSOMAL LOCATION

Genetic locus: SETD6 (human) mapping to 16q21; Setd6 (mouse) mapping to 8 D1.

## SOURCE

SETD6 (Y-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SETD6 of human 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-248568 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SETD6 (Y-18) is recommended for detection of SETD6 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with SETD3, SETD4, or SETD5.

SETD6 (Y-18) is also recommended for detection of SETD6 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for SETD6 siRNA (h): sc-93442, SETD6 siRNA (m): sc-153387, SETD6 shRNA Plasmid (h): sc-93442-SH, SETD6 shRNA Plasmid (m): sc-153387-SH, SETD6 shRNA (h) Lentiviral Particles: sc-93442-V and SETD6 shRNA (m) Lentiviral Particles: sc-153387-V.

Molecular Weight of SETD6 isoforms 1/2: 53/51 kDa.

## 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) 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.

## 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.

## PROTOCOLS

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