

# GATAD2A (G-14): sc-167958

## BACKGROUND

GATAD2A (GATA zinc-finger domain containing 2A), also known as p66 $\alpha$ , is a ubiquitously expressed, highly conserved protein that is essential for development. GATAD2A contains a GATA-type zinc finger and is a component of the NuRD (nucleosome remodeling and histone deacetylation) complex along with MBD2, HDAC1 and HDAC2. The NuRD complex is associated with ATP-dependent chromatin-remodeling and histone deacetylase activity. GATAD2A interacts with MBD2 and MBD3 and colocalizes with MBD2 in nuclear speckles. This interaction enhances repression mediated by MBD2 and allows for the interaction with histone tails. GATAD2A contains two domains involved in transcriptional repression. For functional repressor activity, GATAD2A requires SUMOylation at Lys 30 and Lys 487.

## REFERENCES

1. Brackertz, M., Boeke, J., Zhang, R. and Renkawitz, R. 2002. Two highly related p66 proteins comprise a new family of potent transcriptional repressors interacting with MBD2 and MBD3. *J. Biol. Chem.* 277: 40958-40966.
2. Gururaja, T., Li, W., Bernstein, J., Payan, D.G. and Anderson, D.C. 2003. Use of MEDUSA-based data analysis and capillary HPLC-ion-trap mass spectrometry to examine complex immunoaffinity extracts of RBAP48. *J. Proteome Res.* 1: 253-261.
3. Jin, S.G., Jiang, C.L., Rauch, T., Li, H. and Pfeifer, G.P. 2005. MBD3L2 interacts with MBD3 and components of the NuRD complex and can oppose MBD2-MeCP1-mediated methylation silencing. *J. Biol. Chem.* 280: 12700-12709.
4. Kon, C., Cadigan, K.M., da Silva, S.L. and Nusse, R. 2005. Developmental roles of the Mi-2/NuRD-associated protein p66 in *Drosophila*. *Genetics* 169: 2087-2100.
5. Gong, Z., Brackertz, M. and Renkawitz, R. 2006. SUMO modification enhances p66-mediated transcriptional repression of the Mi-2/NuRD complex. *Mol. Cell. Biol.* 26: 4519-4528.
6. Brackertz, M., Gong, Z., Leers, J. and Renkawitz, R. 2006. p66 $\alpha$  and p66 $\beta$  of the Mi-2/NuRD complex mediate MBD2 and histone interaction. *Nucleic Acids Res.* 34: 397-406.
7. Marino, S. and Nusse, R. 2007. Mutants in the mouse NuRD/Mi2 component P66 $\alpha$  are embryonic lethal. *PLoS ONE* 2: e519.

## CHROMOSOMAL LOCATION

Genetic locus: GATAD2A (human) mapping to 19p13.11; Gatad2a (mouse) mapping to 8 B3.3.

## SOURCE

GATAD2A (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GATAD2A of human origin.

## RESEARCH USE

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

## PRODUCT

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

Blocking peptide available for competition studies, sc-167958 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GATAD2A (G-14) is recommended for detection of GATAD2A 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 GATAD2B.

GATAD2A (G-14) is also recommended for detection of GATAD2A in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GATAD2A siRNA (h): sc-97791, GATAD2A siRNA (m): sc-145342, GATAD2A shRNA Plasmid (h): sc-97791-SH, GATAD2A shRNA Plasmid (m): sc-145342-SH, GATAD2A shRNA (h) Lentiviral Particles: sc-97791-V and GATAD2A shRNA (m) Lentiviral Particles: sc-145342-V.

Molecular Weight of GATAD2A: 68 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.

## PROTOCOLS

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