

NCOAT (L-14): sc-66612

BACKGROUND

NCOAT (nuclear cytoplasmic O-GlcNAcase and acetyltransferase), also known as MGEA5 (meningioma-expressed antigen 5), HEXC or MEA5, is a bifunctional enzyme that functions as both a β -hexosaminidase and a histone acetyltransferase. Expressed ubiquitously with highest expression in placenta, brain and pancreas, NCOAT functions as a glycosidase that catalyzes the cleavage of O-GlcNAc residues from GlcNAc-modified proteins. In addition, NCOAT acetylates specific residues on Histone H3 and Histone H4, suggesting an important role in the histone code. The enzymatic activity of NCOAT is optimal at a slightly acidic pH of 5.7-7 and NCOAT function is competitively inhibited by free N-acetylglucosamine. Due to alternative splicing events, NCOAT is expressed as three isoforms. Isoform 1 localizes to the cytoplasm, while isoform 3 localizes to the nucleus.

REFERENCES

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- Gao, F., et al. 2005. Hypoxia-induced alterations in hyaluronan and hyaluronidase. *Adv. Exp. Med. Biol.* 566: 249-256.
- Whisenhunt, T.R., et al. 2006. Disrupting the enzyme complex regulating O-GlcNAcylation blocks signaling and development. *Glycobiology* 16: 551-563.
- Toleman, C., et al. 2006. Location and characterization of the O-GlcNAcase active site. *Biochim. Biophys. Acta* 1760: 829-839.
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CHROMOSOMAL LOCATION

Genetic locus: MGEA5 (human) mapping to 10q24.32; Mgea5 (mouse) mapping to 19 C3.

SOURCE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-66612 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NCOAT (L-14) is recommended for detection of NCOAT 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).

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

Suitable for use as control antibody for NCOAT siRNA (h): sc-62667, NCOAT siRNA (m): sc-62668, NCOAT shRNA Plasmid (h): sc-62667-SH, NCOAT shRNA Plasmid (m): sc-62668-SH, NCOAT shRNA (h) Lentiviral Particles: sc-62667-V and NCOAT shRNA (m) Lentiviral Particles: sc-62668-V.

Molecular Weight of NCOAT: 130 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.

SELECT PRODUCT CITATIONS

- Gu, Y., et al. 2014. O-GlcNAcylation is increased in prostate cancer tissues and enhances malignancy of prostate cancer cells. *Mol. Med. Rep.* 10: 897-904.

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.



Try **NCOAT (G-12): sc-376429**, our highly recommended monoclonal alternative to NCOAT (L-14).