

MCM3AP (E-20): sc-83297

BACKGROUND

Minichromosome maintenance protein 3 (MCM3) is a protein essential for the initiation of DNA replication. MCM3-associated protein (MCM3AP), also known as GANP or MAP80, is a 1,980 amino acid protein which binds to MCM3. MCM3AP is an acetyltransferase that acetylates MCM3, thereby playing an indirect role in DNA replication. MCM3AP is also believed to be involved in the nuclear localization of MCM3. Localized to the nucleus and the cytoplasm, MCM3AP is thought to have phosphorylation-dependent DNA-primase activity that is upregulated in germinal center regions. MCM3AP contains a nuclear localization signal, a coiled-coil structure and four LXXLL motifs.

REFERENCES

1. Abe, E., et al. 2000. Structure, expression, and chromosomal localization of the human gene encoding a germinal center-associated nuclear protein (GANP) that associates with MCM3 involved in the initiation of DNA replication. *Gene* 255: 219-227.
2. Takei, Y., et al. 2001. MCM3AP, a novel acetyltransferase that acetylates replication protein MCM3. *EMBO Rep.* 2: 119-123.
3. El-Gazzar, M.A., et al. 2001. PU.1 is involved in the regulation of B lineage-associated and developmental stage-dependent expression of the germinal center-associated DNA primase GANP. *J. Biol. Chem.* 276: 48000-48008.
4. Kuwahara, K., et al. 2001. Germinal center-associated nuclear protein (GANP) has a phosphorylation-dependent DNA-primase activity that is up-regulated in germinal center regions. *Proc. Natl. Acad. Sci. USA* 98: 10279-10283.
5. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 603294. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Sakaguchi, N., et al. 2002. Involvement of GANP in B cell activation in T cell-dependent antigen response. *Dev. Immunol.* 9: 169-172.
7. Kono, Y., et al. 2002. MCM3-binding GANP DNA-primase is associated with a novel phosphatase component G5PR. *Genes Cells* 7: 821-834.

CHROMOSOMAL LOCATION

Genetic locus: MCM3AP (human) mapping to 21q22.3; Mcm3ap (mouse) mapping to 10 C1.

SOURCE

MCM3AP (E-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of MCM3AP of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-83297 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

MCM3AP (E-20) is recommended for detection of MCM3AP 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), immunohistochemistry (including paraffin-embedded sections) (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 other MCM family members.

MCM3AP (E-20) is also recommended for detection of MCM3AP in additional species, including equine, canine, bovine and porcine.

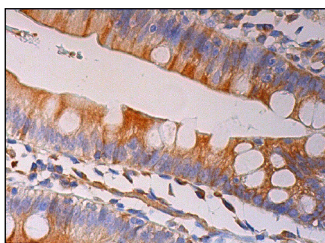
Suitable for use as control antibody for MCM3AP siRNA (h): sc-91405, MCM3AP siRNA (m): sc-149319, MCM3AP shRNA Plasmid (h): sc-91405-SH, MCM3AP shRNA Plasmid (m): sc-149319-SH, MCM3AP shRNA (h) Lentiviral Particles: sc-91405-V and MCM3AP shRNA (m) Lentiviral Particles: sc-149319-V.

Molecular Weight of MCM3AP: 80 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



MCM3AP (E-20): sc-83297. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Maeda, K., et al. 2010. GANP-mediated recruitment of activation-induced cytidine deaminase to cell nuclei and to immunoglobulin variable region DNA. *J. Biol. Chem.* 285: 23945-23953.

STORAGE

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