

Ameloblastin (M-300): sc-50534

BACKGROUND

Dental enamel is a highly mineralized tissue with most of its volume occupied by large, highly organized, hydroxyapatite crystals. This structure is thought to be controlled through the interaction of many organic matrix molecules including Amelogenin, Ameloblastin, Enamelin, Tuftelin and several other enzymes. All of these secreted proteins are involved in the mineralization and enamel matrix formation in developing tooth enamel. Ameloblastin (AMBN), which localizes to the extracellular matrix, is an ameloblast-specific protein. It is detected in the sheath space between rod-interrod enamel and at the Tomes processes of secretory ameloblasts. Defects in the gene encoding for ameloblastin, AMBN, can be seen in patients with ameloblastomas.

REFERENCES

1. MacDougall, M., et al. 2000. Cloning, characterization and immunolocalization of human Ameloblastin. *Eur. J. Oral Sci.* 108: 303-310.
2. Toyosawa, S., et al. 2000. Cloning and characterization of the human Ameloblastin gene. *Gene* 256: 1-11.
3. Mardh, C.K., et al. 2001. Human Ameloblastin gene: genomic organization and mutation analysis in amelogenesis imperfecta patients. *Eur. J. Oral Sci.* 109: 8-13.
4. Shintani, S., et al. 2005. Expression of ameloblastin during enamel formation in a crocodile. Enamel formation, as well as adhesion between ameloblasts and the enamel. *J. Exp. Zool. B Mol. Dev. Evol.* 306: 126-133.
5. Torres-Quintana, M.A., et al. 2005. Ameloblastin and Amelogenin expression in postnatal developing mouse molars. *J. Oral Sci.* 47: 27-34.
6. Wang, H., et al. 2005. Enamel matrix protein interactions. *J. Bone Miner. Res.* 20: 1032-1040.

CHROMOSOMAL LOCATION

Genetic locus: *Ambn* (mouse) mapping to 5 E1.

SOURCE

Ameloblastin (M-300) is a rabbit polyclonal antibody raised against amino acids 108-407 mapping at the C-terminus of Ameloblastin of mouse origin.

PRODUCT

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

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 or our catalog for detailed protocols and support products.

APPLICATIONS

Ameloblastin (M-300) is recommended for detection of Ameloblastin of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for Ameloblastin siRNA (m): sc-44946, Ameloblastin shRNA Plasmid (m): sc-44946-SH and Ameloblastin shRNA (m) Lentiviral Particles: sc-44946-V.

Molecular Weight of Ameloblastin: 48 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

SELECT PRODUCT PRODUCT

1. Kamasaki, Y., et al. 2012. Glycosphingolipids regulate ameloblastin expression in dental epithelial cells. *J. Dent. Res.* 91: 78-83.
2. Nakagawa, E., et al. 2012. The novel expression of Oct3/4 and Bmi1 in the root development of mouse molars. *Cell Tissue Res.* 347: 479-484.
3. Nakagawa, E., et al. 2012. The novel function of Oct3/4 in mouse tooth development. *Histochem. Cell Biol.* 137: 367-376.
4. Zhang, Z., et al. 2013. The LIM homeodomain transcription factor LHX6: a transcriptional repressor that interacts with pituitary homeobox 2 (PITX2) to regulate odontogenesis. *J. Biol. Chem.* 288: 2485-2500.