SANTA CRUZ BIOTECHNOLOGY, INC.

Ameloblastin (N-18): sc-33100

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Zoolog. B Mol. Dev. Evol. 306: 126-133.
5. Torres-Quintana, M.A., et al. 2005. Ameloblastin and amelogenin expression in posnatal 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 (human) mapping to 4q13.3; Ambn (mouse) mapping to 5 E1.

SOURCE

Ameloblastin (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Ameloblastin 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-33100 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Ameloblastin (N-18) is recommended for detection of Ameloblastin 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).

Ameloblastin (N-18) is also recommended for detection of Ameloblastin in additional species, including equine, canine and porcine.

Suitable for use as control antibody for Ameloblastin siRNA (h): sc-44945, Ameloblastin siRNA (m): sc-44946, Ameloblastin shRNA Plasmid (h): sc-44945-SH, Ameloblastin shRNA Plasmid (m): sc-44946-SH, Ameloblastin shRNA (h) Lentiviral Particles: sc-44945-V 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 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

1. Hatakeyama, S., et al. 2011. Establishment of human dental epithelial cell lines expressing ameloblastin and enamelin by transfection of hTERT and cdk4 cDNAs. J. Oral Pathol. Med. 40: 227-234.
2. Tamburstuen, M.V., et al. 2011. Ameloblastin expression and putative autoregulation in mesenchymal cells suggest a role in early bone formation and repair. Bone 48: 406-413.
3. Landin, M.A., et al. 2012. Gene expression profiling during murine tooth development. Front. Genet. 3: 139.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.