SANTA CRUZ BIOTECHNOLOGY, INC.

Enamelin (2C12): sc-293334

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. Enamelin (ENAM) localizes to the extracellular matrix. During the secretory stage of enamel formation, it plays a role in enamel extension. Enamelin is expressed in odontoblasts, cementoblasts and ameloblasts. Defects in the gene encoding for enamelin, ENAM, may cause hypoplastic amelogenesis imperfecta 2 (AIH2) which is an autosomal dominant disease characterized by anomalies in enamel development.

REFERENCES

1. Torres-Quintana, M.A., et al. 2005. Ameloblastin and amelogenin expression in posnatal developing mouse molars. J. Oral Sci. 47: 27-34.
2. Wang, H., et al. 2005. Enamel matrix protein interactions. J. Bone Miner. Res. 20: 1032-1040.
3. Paine, M.L., et al. 2005. Tooth developmental biology: disruptions to enamel-matrix assembly and its impact on biomineralization. Orthod. Craniofac. Res. 8: 239-251.
4. Masuya, H., et al. 2005. Enamelin (ENAM) is essential for amelogenesis: ENU-induced mouse mutants as models for different clinical subtypes of human amelogenesis imperfecta (AI). Hum. Mol. Genet. 14: 575-583.
5. Kim, J.W., et al. 2005. ENAM mutations in autosomal-dominant amelogenesis imperfecta. J. Dent. Res. 84: 278-282.
6. Mizuno, N., et al. 2005. Characterization of epithelial cells derived from periodontal ligament by gene expression patterns of bone-related and enamel proteins. Cell Biol. Int. 29: 111-117.

CHROMOSOMAL LOCATION

Genetic locus: ENAM (human) mapping to 4q13.3.

SOURCE

Enamelin (2C12) is a mouse monoclonal antibody raised against amino acids 1043-1141 of Enamelin of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain 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.

PROTOCOLS

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

APPLICATIONS

Enamelin (2C12) is recommended for detection of Enamelin of human 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

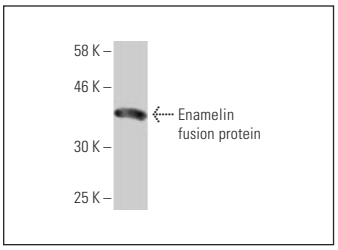
Suitable for use as control antibody for Enamelin siRNA (h): sc-44947, Enamelin shRNA Plasmid (h): sc-44947-SH and Enamelin shRNA (h) Lentiviral Particles: sc-44947-V.

Molecular Weight of Enamelin: 129 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Enamelin (2C12): sc-293334. Western blot analysis of human recombinant Enamelin fusion protein.

RESEARCH USE

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