

# Amelogenin (C-19): sc-33109

## 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. The gene AMELX, which encodes for the protein Amelogenin, is encoded on the X-chromosome. Amelogenin, also designated AMG, AMGX or AMEX, is involved in biomineralization and organization of developing enamel. It functions by regulating crystallite formation during the secretory stage of enamel development. Amelogenin, which localizes to the extracellular matrix, is expressed by ameloblasts and is the predominant protein in developing dental enamel. Defects in the AMELX gene can cause amelogenesis imperfecta hypoplastic type 1 (AIH1) which is an X-linked disease that affects the formation of tooth enamel.

## REFERENCES

1. Nakahori, Y., et al. 1991. A human X-Y homologous region encodes "amelogenin". Genomics 9: 264-269.
2. Catalano-Sherman, J., et al. 1993. Amino acid sequence of a major human amelogenin protein employing Edman degradation and cDNA sequencing. J. Dent. Res. 72: 1566-1572.
3. Catalano-Sherman, J., et al. 1994. Production of a monoclonal antibody against human Amelogenin. Calcif. Tissue Int. 54: 76-80.
4. Lagerstrom-Fermer, M., et al. 1995. Amelogenin signal peptide mutation: correlation between mutations in the Amelogenin gene (AMGX) and manifestations of X-linked amelogenesis imperfecta. Genomics 26: 159-162.
5. Du, C., et al. 2005. Apatite/Amelogenin coating on titanium promotes osteogenic gene expression. J. Dent. Res. 84: 1070-1074.

## CHROMOSOMAL LOCATION

Genetic locus: AMELX (human) mapping to Xp22.2; Amelx (mouse) mapping to X F5.

## SOURCE

Amelogenin (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Amelogenin 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-33109 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.

## APPLICATIONS

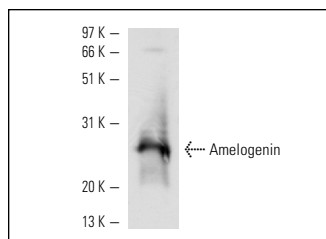
Amelogenin (C-19) is recommended for detection of Amelogenin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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).

Suitable for use as control antibody for Amelogenin siRNA (h): sc-44845, Amelogenin siRNA (m): sc-44846, Amelogenin shRNA Plasmid (h): sc-44845-SH, Amelogenin shRNA Plasmid (m): sc-44846-SH, Amelogenin shRNA (h) Lentiviral Particles: sc-44845-V and Amelogenin shRNA (m) Lentiviral Particles: sc-44846-V.

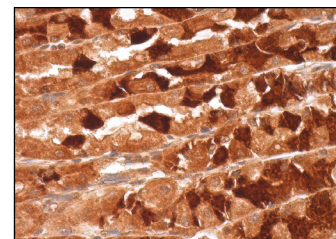
Molecular Weight of Amelogenin: 24 kDa.

Positive Controls: Saos-2 cell lysate: sc-2235, NIH/3T3 whole cell lysate: sc-2210 or mouse embryo tissue extract: sc-364239.

## DATA



Amelogenin (C-19): sc-33109. Western blot analysis of Amelogenin expression in mouse embryo tissue extract.



Amelogenin (C-19): sc-33109. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Li, X., et al. 2010. Different effects of 25-kDa amelogenin on the proliferation, attachment and migration of various periodontal cells. Biochem. Biophys. Res. Commun. 394: 581-586.
2. Lee, H.K., et al. 2010. The odontogenic ameloblast-associated protein (ODAM) cooperates with RUNX2 and modulates enamel mineralization via regulation of MMP-20. J. Cell. Biochem. 111: 755-767.

## RESEARCH USE

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



Try **Amelogenin (F-11): sc-365284**, our highly recommended monoclonal alternative to Amelogenin (C-19).