

Product Information

Amelogenin, X isoform

Recombinant, expressed in *E. coli***SAE0117**

Product Description

Synonyms: AMELX, AMG, AMGX, Amel

Storage Temperature: -20 °C

Amelogenin, X isoform (AMELX) belongs to the family of closely related amelogenin proteins that participate in the amelogenesis process of teeth mineralization. Amelogenins account for more than 90% of the total protein in developing tooth enamel. Mutations in AMELX are responsible for development of the rare disease Amelogenesis imperfecta 1E (AI1E), which is characterized by abnormal tooth enamel development.¹

Amelogenins act both as attachment factors and as a growth factor for mesenchymal stem cells.²⁻⁴ Amelogenins are of interest in various research applications such as treatment of hard-to-heal wounds, regeneration of tooth-supporting tissues, promoting remineralization of caries lesions, and repair of human tooth enamel.⁵⁻⁸

This recombinant AMELX expressed in *E. coli* has the following protein sequence:

MPLPPHPGHPGYINFSEVLTPLKQYQSIRPPYPSYGYEPM
GGWLHHQIIPVLSQQHPPTHTLQPHHHIPVVPAAQQPVIPQQ
PMPFVPGQHSMTPIQHHQPNLPPPAQQPYQPQPVQPQPHQP
MQPQPPVHPMQPLPPQPLPPMFPMQPLPMLPDLTLEAWP
STDKTKREEVD

This recombinant AMELX protein does not contain any additional sequence tags.

Precautions and Disclaimer

This product is for R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Product

The product is supplied as a lyophilized powder, prepared from a 0.2 µM filtered solution of AMELX in 2% acetic acid without any additives. The lyophilized product is essentially salt-free.

The biological activity of recombinant human AMELX is measured by its ability to promote attachment of Saos-2 cells to a coated surface. The ED₅₀ is defined as the amount of AMELX per cm² that elicits 50% of the maximal attachment activity.

Storage/Stability

The product retains activity for at least 2 years when stored at -20 °C.

Preparation Instructions

The product can be reconstituted in water or in 2% acetic acid at a concentration of 0.1-5 mg/mL. Tap the vial to make sure that the protein is reconstituted. Aliquot reconstituted AMELX and store at -20 °C. Avoid repeated freeze/thaw cycles.

AMELX may form thin clear films on some surfaces, leading to reduced concentrations in solution. The exact AMELX concentration can be determined by absorption measurement at 280 nm. A 0.1% AMELX solution has A₂₈₀ = 1.35.

References

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