

The lack of Fam83h mediated reduction of Wnt/B-Catenin signaling pathway and expression levels of dental mineralization genes

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Abstract

Background: FAM83H has been identified as an essential gene for dental enamel formation and may be related to Wnt/ β -catenin.

Methods: levels of Fam20a, Dspp, Dmp1, Enam, Ambn, Sppl2a, Mmp20, Fgf10, and the mediators of Wnt/ β catenin pathway were measured in the dental root of both Fam83h-KnockOut and wild-type mice by using QPCR at 5, 11 and 18 days after birth. The expression of Fgf10 and the mediators of Wnt/ β -catenin were also evaluated in the skin of KnockOut and wild-type mice by using Q-PCR and also, The histology of hair follicles was compared. the Fam83h-KnockOut mice recruited in this study confirmed by Sanger sequencing and western blot analysis.

Conclusion: it seems that in the lack of Fam83h, dental mineralization is induced by simultaneous decrease of Wnt / β -catenin mediators and the mineralization-related genes, suggesting to act in a cumulative effect manner and probably behave as a multi-factorial trait.

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Biography

Sherko Nasserri, Ph.D. in molecular medicine. Assistant Professor, from Kurdistan University of Medical Sciences, Iran. During my Ph.D. Thesis, He worked on the generation of Fam83h Knockout Mice by using the CRISPR/Cas9 method. The absence of Fam83h these mice has the scruffy cover, dry eye phenotypes, and also these mice were

smaller than the same age normal mice. In continuation of this project, he found that the WNT/B-Catenin pathway decreased. The Fam83h gene has a high expression level in the gastrointestinal tract. Given all that has been said, it brings me a critical question that how the fam83h gene play role in the gastrointestinal tract.