

Odontogenesis

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Odontogenesis is the formation and development of teeth. Tooth development can be divided into three overlapping phases. initiation, morphogenesis and histogenesis. During initiation, the oral epithelium folds inwards to form the tooth germs and the site of tooth development. Then undifferentiated mesenchymal cells migrates to the site of tooth formation and proliferates to determine the shape of the tooth during the morphogenesis phase. During histogenesis, differentiation of cells proceeds to give rise to the mature dental tissues. Tooth development is divided into roughly into 5 stages. These are the bud stage, cap stage, bell stage, dentinogenesis and amelogenesis.



Recent Publications on Odontogenesis:

- [The taming of the shrew milk teeth.](#)
*A characteristic feature of mammalian dentition is the evolutionary...*26th September, 2008
Developmental Biology Program, Institute of Biotechnology, Viikki- Evol Dev. 2008
Jul-Aug;10(4):477-86. ([DOI Direct Link](#))
- [Low divergence in Dlx gene expression between dentitions of the medaka \(*Oryzias latipes*\) versus high level of expression shuffling in osteichthyans.](#)
*Serially homologous structures are believed to originate from the...*26th September, 2008
Laboratoire Evolution, Genome et Speciation, UPR9034 CNRS, Gif-sur-Yvette,- Evol Dev. 2008
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- [Bioengineered dental tissues grown in the rat jaw.](#)
*Our long-term objective is to develop methods to form, in the jaw,...*19th September, 2008
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- [TGF-beta3: A promising growth factor in engineered organogenesis.](#)
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- [A regulatory relationship between Tbx1 and FGF signaling during tooth morphogenesis and ameloblast lineage determination.](#)
*The Tbx1 gene is a transcriptional regulator involved in the DiGeorge...*30th August, 2008
Department of Orofacial Development and Structure, Institute of Oral- Dev Biol. 2008 Aug
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- [Epithelial-mesenchymal cell ratios can determine the crown morphogenesis of dental pulp stem cells.](#)
*Although dental pulp stem cells (DPSC) have been isolated from adult...*30th August, 2008
Department of Endodontics, School of Stomatology, Nanjing Medical- Stem Cells Dev. 2008

- Jun;17(3):475-82. ([DOI Direct Link](#))
- [The amelogenin "enamel proteins" and cells in the periodontium.](#)
*This overview will examine the multifunctional nature of a group of...*22nd August, 2008
 Department of Anatomy and Cell Biology, University of Pennsylvania School- Crit Rev Eukaryot Gene Expr. 2008;18(4):345-60.
 - [Radiographic study of the positional changes and eruption of impacted third molars in young adults of an Asian Indian population.](#)
*PURPOSE: The aim of the study was to assess changes in the angular...*22nd August, 2008
 Department of Oral and Maxillofacial Surgery, Sri Guru Ram Das Institute- J Oral Maxillofac Surg. 2008 Aug;66(8):1617-24. ([DOI Direct Link](#))
 - [Enamel dysplasia with hamartomatous atypical follicular hyperplasia \(EDHFH\) syndrome: suggested pathogenic mechanisms.](#)
*The syndrome of enamel dysplasia with hamartomatous atypical follicular...*19th August, 2008
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 - [Characterization of dental pulp stem cells of human tooth germs.](#)
*In previous studies, human dental pulp stem cells (hDPSCs) were mainly...*13th August, 2008
 Department of Oral and Maxillofacial Science, Gifu University Graduate- J Dent Res. 2008 Jul;87(7):676-81.
 - [Tooth agenesis: from molecular genetics to molecular dentistry.](#)
*Tooth agenesis may originate from either genetic or environmental factors....*13th August, 2008
 Institute of Animal Physiology and Genetics, Academy of Sciences, Brno,- J Dent Res. 2008 Jul;87(7):617-23.
 - [Timing of human mandibular third molar formation.](#)
*BACKGROUND: Population differences in tooth formation using radiographs...*8th August, 2008
 Dental Institute, Barts and The London School of Medicine and Dentistry,- Ann Hum Biol. 2008 May-Jun;35(3):294-321. ([DOI Direct Link](#))
 - [Whole-tooth regeneration: it takes a village of scientists, clinicians, and patients.](#)
*A team of senior scientists was formed in 2006 to create a blueprint for...*5th August, 2008
 Center for Craniofacial Molecular Biology, School of Dentistry, University- J Dent Educ. 2008 Aug;72(8):903-11.
 - [Structure and development of first-generation teeth in the cichlid *Hemichromis bimaculatus* \(Teleostei, Cichlidae\).](#)
*In order to build a reference system to assess results of ongoing in vitro...*17th July, 2008
 Instituut voor Dierkunde, Universiteit Gent, Belgium.- Tissue Cell. 1997 Dec;29(6):679-97.
 - [Immunoexpression of integrins in ameloblastoma, adenomatoid odontogenic tumor, and human tooth germs.](#)
*The expression of integrins alpha2beta1, alpha3beta1, and alpha5beta1 in...*25th June, 2008
 Department of Oral Pathology, Dentistry School, University of Pernambuco,- Int J Surg Pathol. 2008 Jul;16(3):277-85. ([DOI Direct Link](#))

Odontogenesis Patents:



- 7384652- [Complexed-acidic-phospholipid-collagen composites for bone induction](#)
- 5240415- [Dental bleach system having separately compartmented fumed silica and hydrogen peroxide](#)

[and method of using](#)

- 5766011- [Dental bleaching composition and method](#)
- 5874562- [Nucleic acid encoding developmentally-regulated endothelial cell locus-1](#)
- 5877281- [Developmentally-regulated endothelial cell locus-1](#)
- 6846182- [Dental bleaching composition and method](#)
- 7041801- [Antibodies binding to polypeptides encoded by developmentally-regulated endothelial cell locus-1](#)
- 7148036- [DNA molecules encoding cartilage-derived morphogenetic proteins](#)
- 7220558- [Cartilage-derived morphogenetic proteins](#)
- 7223751- [Sulfonamide derivatives, intermediate thereof, its preparation methods, and pharmaceutical composition comprising the same](#)
- 7365153- [Biologically active peptide and agent containing the same](#)
- 4770633- [Wax shaping tool](#)

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