




2015年2月6日

学位論文審査並びに最終試験結果報告書

大学院歯学研究科長 殿

主査 東城 庸介 
副査 千葉 逸朗 
副査 長澤 敏行 

今般 眞島 いづみ にかかわる学位論文審査並びに最終試験を行い下記の結果を得たので報告する。

記

- 1 学位論文題目 Phylogenetic and Ecological Study of Oral *Veillonella* in Biofilm Formation
- 2 論文要旨 別添
- 3 学位論文審査の要旨 別添 (様式第12号)
- 4 最終試験の要旨 別添 (様式第13号)

以上の結果 眞島 いづみ は博士 (歯学) の学位を授与する資格のあるものと判定する。

学位論文審査の要旨

主査 東 城 庸 介
副査 千 葉 逸 朗
副査 長 澤 敏 行



氏 名 眞 島 いづみ

学位論文題目 Phylogenetic and Ecological Study of Oral *Veillonella* in
Biofilm Formation

以下本文

The genus *Veillonella* consists of small, strictly anaerobic, gram-negative cocci that lack flagella, spores, and capsules. Previously, 5 species, *Veillonella atypica*, *Veillonella denticariosi*, *Veillonella dispar*, *Veillonella parvula*, and *Veillonella rogosae*, have been recognized as oral *Veillonella*, although 11 total species have been identified in the genus. The main habitats of oral *Veillonella* are dental biofilms of the tongue and buccal mucosa, and it has been suggested that oral *Veillonella* species contribute to oral biofilm formation and may thereby lead to the formation of dental diseases such as periodontitis.

The distribution and frequency of 5 oral *Veillonella* species in human tongue biofilms of healthy young adults were examined. In this process, unidentified strains displaying the phenotypic characteristics of the genus *Veillonella* were isolated. Based on a comparative analysis of gene sequences, analysis of cellular fattyacids, and biochemical tests, the strains represent a novel species, subsequently named *Veillonella tobetsuensis*.

V. tobetsuensis was detected in 5 out of 27 subjects with other oral *Veillonella* species by PCR using specific primers based on the *dnaK* gene sequence. The prevalence of *V. tobetsuensis* ranged from 7.6–20.0% in these subjects.

The distribution and frequency of oral *Veillonella* species including *V. tobetsuensis* in periodontal pockets were also examined. *V. parvula*, was frequently isolated from periodontal pockets as the predominant species.

All 6 oral *Veillonella* species stimulated the formation of 4 oral *Streptococcus* biofilms using the wire method. The greatest amount of biofilms was formed by *S. gordonii* in the presence of *V. tobetsuensis* without co-aggregation. It was suggested that autoinducers produced by *V. tobetsuensis* might have important roles in the biofilm formation of *S. gordonii*. Future phylogenetic and ecological studies of *Veillonella* species are necessary.

These results and abilities of planning, performance, and demonstration in this research could be evaluated as high level. According to peer-reviews, this thesis was determined as PhD.

様式第13号

最終試験（学力の確認）の要旨

主査 東 城 庸 介
副査 千 葉 逸 朗
副査 長 澤 敏 行



氏 名 眞 島 い づ み

審査委員会において、最終試験を行い申請者の学力の確認を行ったところ、学位論文に関する十分な知識と研究遂行能力を有するとみとめた。以上の結果、博士（歯学）の学位を授与するに値するものと判定した。