

[Available Issues](#) | [Japanese](#)>> [Publisher Site](#)

Author: [ADVANCED](#) | Volume Page
 Keyword: |



[TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

PRINT ISSN : 0040-8891

The Bulletin of Tokyo Dental College

Vol. 51 (2010), No. 3 :145-150

[\[PDF \(156K\)\]](#) [\[References\]](#)

Fimbriae-associated Genes are Biofilm-forming Factors in *Aggregatibacter actinomycetemcomitans* Strains

[Takayuki Saito](#)¹⁾, [Kazuyuki Ishihara](#)²⁾, [Masahiro Ryu](#)¹⁾, [Katsuji Okuda](#)²⁾ and [Kaoru Sakurai](#)¹⁾

1) Department of Removable Prosthodontics and Gerodontology, Tokyo Dental College

2) Department of Microbiology, Tokyo Dental College

(Received July 24, 2009)
(Accepted April 21, 2010)

Abstract: *Aggregatibacter actinomycetemcomitans* colonizes human periodontal lesions and is implicated in both aggressive periodontitis and chronic periodontitis. Clinical isolated colonies of *A. actinomycetemcomitans* were rough type. The rough type has a remarkable ability to adhere tenaciously to solid surfaces and colonize firmly. Rough type colonies change into smooth type colonies during the course of repeated inoculation and biofilm-forming activity ceases. Adherence by *A. actinomycetemcomitans* is mediated by the tight-adherence (*tad*) gene locus, which includes *flp*, *rcpA* and *rcpB*. In this study, we investigated the relationship between its biofilm-forming ability and expression of the *flp*, *rcpA* and *rcpB* genes associated with fimbriae protein production. First, we changed rough type strain organized biofilm on glass into smooth type and confirmed it by observation of biofilm on glass surfaces. Then, we carried out Real-Time PCR and found that expression of the *rcpA* and *rcpB* genes was clearly reduced in smooth type colonies. This suggests that expression of *rcpA* and *rcpB* plays a key role in biofilm formation by *A. actinomycetemcomitans* strains and the establishment of persistent infections in periodontal lesions.

Key words: [Biofilm formation](#), [Aggregatibacter actinomycetemcomitans](#), [Fimbriae](#), [Gene expression](#)

[\[PDF \(156K\)\]](#) [\[References\]](#)

To cite this article:

Takayuki Saito, Kazuyuki Ishihara, Masahiro Ryu, Katsuji Okuda and Kaoru Sakurai:
“Fimbriae-associated Genes are Biofilm-forming Factors in *Aggregatibacter actinomycetemcomitans* Strains”. The Bulletin of Tokyo Dental College, Vol. **51**: 145-150 (2010) .

doi:10.2209/tdcpublication.51.145

JOI JST.JSTAGE/tdcpublication/51.145

Copyright (c) 2010 by Tokyo Dental College, Japan



[Japan Science and Technology Information Aggregator, Electronic](#)

