



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

ONLINE ISSN : 1880-3997

PRINT ISSN : 0917-2394

Pediatric Dental Journal

Vol. 17 (2007) , No. 1 pp.40-46

[\[PDF \(320K\)\]](#) [\[References\]](#)

The role of anti immune response on adenosine stimulated macrophages

Kentaro Harutsugu¹⁾, Kyoko Watanabe¹⁾ and Michiharu Daito¹⁾

1) Department of Pediatric Dentistry, Osaka Dental University

(Received on September 30, 2006)

(Accepted on February 1, 2007)

Abstract Macrophages are essential for controlling the majority of infections, and are mediators of natural immunity. Namely, macrophages are the main cells that secrete anti-inflammatory cytokines, such as IL-10. IL-10 is an important suppressive cytokine, produced by many kinds of immune cells, which plays a key role in the anti-inflammatory immune responses. Adenosine mediates many of its effects through one or more of four receptors, the adenosine A₁, A_{2A}, A_{2B}, and A₃ receptors, and it has been shown that A_{2A} adenosine receptor (A_{2A}R) is a critical part of the physiological negative feedback mechanism for limitation and termination of tissue-specific and systemic inflammatory responses. Mac-1 is an adhesion molecule required for apoptosis induced by other cell surface receptors, and is expressed on the surface of macrophages. Mac-1 expression is also necessary for the termination of an inflammatory reaction. To demonstrate how adenosine has its effects on macrophages to control inflammation, we evaluated the effects of adenosine in the RAW264 and THP-1 macrophage cell lines. Adenosine did not affect the proliferation in RAW264 cells regardless of the concentration. On the other hand, adenosine increased IL-10 production in RAW264 cells. Moreover, adenosine markedly increased the expression of CD11b, which is a Mac-1 alpha integrin. These results indicate that adenosine may affect the anti-inflammatory reactions in macrophages by enhancing the production of IL-10, and influence apoptosis by expression of CD11b.

Key words Adenosine, Inflammation, Macrophage

[\[PDF \(320K\)\]](#) [\[References\]](#)

Download Meta of Article [\[Help\]](#)

To cite this article:

Kentaro Harutsugu, Kyoko Watanabe and Michiharu Daito: The role of anti immune response on adenosine stimulated macrophages . *Ped Dent J* **17**: 40-46, 2007 .

JOI JST.JSTAGE/pdj/17.40

Copyright (c) 2007 by The Japanese Society of Pediatric Dentistry



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

