

# Microbial Nucleic Acid Sensing in Oral and Systemic Diseases

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## Appendix

**Appendix Table.** Studies that Investigated TLR9 in the Course of Periodontal Inflammation.

Type of Study	Tissue/Source	References
<b>Computational</b>		
TLR9 was identified as a promising candidate gene for studying periodontitis pathogenesis	Genome-wide association studies and expression profiles in periodontitis lesions	Zhan et al. (2014)
<b>Clinical</b>		
Increased TLR9 gene and protein expression in patients with chronic periodontitis	Gingival biopsies	Kajita et al. (2007); Beklen et al. (2008); Rojo-Botello et al. (2012); Sahingur et al. (2013); Wara-aswapati et al. (2013); Chen et al. (2014)
Increased TLR9 in patients with chronic periodontitis positively correlated with <i>Porphyromonas gingivalis</i> numbers in subgingival plaque	Gingival biopsies and plaque samples	Wara-aswapati et al. (2013)
TLR9 specific polymorphisms were associated with chronic periodontitis	Genomic DNA	Holla et al. (2010); Sahingur et al. (2011)
<b>In vivo</b>		
TLR9 <sup>-/-</sup> mice were protected from <i>P. gingivalis</i> -induced periodontal bone loss	TLR9 <sup>-/-</sup> and wild-type mice	Kim et al. (2015)
<b>In vitro</b>		
Periodontal bacteria and bDNA triggered cytokine production in human and murine cells through TLR9	Monocytes/macrophages, gingival fibroblasts and epithelial cells, and murine splenocytes	Takeshita et al. (1999); Nonnenmacher et al. (2003); Sahingur et al. (2010); Kim et al. (2012); Sahingur et al. (2012); Kim et al. (2015)
<i>Fusobacterium nucleatum</i> and <i>P. gingivalis</i> enhanced HIV-1 reactivation through TLR2 and TLR9	Monocytes/macrophages	Gonzalez et al. (2010)
TLR9 deficiency affected inflammatory responses to TLR2 and TLR4 agonists in murine cells	Macrophages and splenocytes from TLR9 <sup>-/-</sup> and wild-type mice	Kim et al. (2015)
Synergistic induction of antimicrobial factors in human oral epithelial cells when activated with a combination of synthetic TLR9, NOD1, or NOD2 agonists	Human oral epithelial cells	Uehara and Takada (2008)
Human cytomegalovirus and Epstein-Barr virus down-regulated TLR9 expression and diminished TNF production in periodontal bacteria-infected macrophages	Macrophages	Lin and Li (2009)

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