

REVIEWER'S REPORT

Manuscript No: IJAR-56721

Title: Advances in Salivary Biomarkers for Early Identification of Dental Caries.

Recommendation:

Accept as it is

Accept after minor revision.....Yes.....

Accept after major revision

Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality	•			
Techn. Quality	•			
Clarity	•			
Significance	•			

Reviewer's ID: JPR-Dr. Sireesha Kuruganti

Detailed Reviewer's Report

Based on the provided manuscript regarding salivary biomarkers for dental caries, here is an in-depth review and report:

General Overview

The manuscript provides a comprehensive synthesis of current research on using saliva as a non-invasive diagnostic tool for early caries detection. It effectively covers various biomarker categories, including microbial, proteomic, and immunological factors.

Specific Section Review & Feedback

1. Title and Abstract

* Lines 1–3: The title is clear and accurately reflects the scope of the review.

* Lines 14–16: The abstract correctly identifies the primary challenges in the field, specifically "methodological heterogeneity" and the need for "standardized protocols".

2. Introduction and Background

* Lines 24–27: The definition of dental caries as a "multifactorial disease" is well-stated and supported by the mention of host susceptibility and time.

* Line 29: The authors correctly identify the limitations of "visual-tactile examination and radiography," noting they often only detect late-stage lesions.

* Line 40: Reviewer Comment: You mention "alterations in salivary composition may indicate increased caries susceptibility". It would strengthen the manuscript to specify which specific alterations (e.g., pH drops or specific ion depletion) are most critical.

3. Microbial Salivary Biomarkers

* Lines 44–46: The manuscript mentions *Streptococcus mutans*, *Lactobacillus* spp., and *Candida albicans*.

* Lines 47–49: Observation: The transition to "complex interactions among bacterial communities" rather than single-species analysis is a modern and necessary inclusion for a high-impact review.

4. Protein-Based Biomarkers

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* Lines 52–61: This section provides a solid list of key proteins like Alpha-amylase, Mucins, and Histatins.

* Technical Note (Line 54): The mention of "coral peptides" appears to be a typographical error or a fragment from the previous line's formatting ("antimicrobial peptides, as coral peptides"). This should be corrected to ensure scientific accuracy.

5. Immunological and Oxidative Stress Biomarkers

* Lines 64–66: Specific cytokines like IL-4 and TNF- α are correctly linked to caries activity.

* Lines 70–73: The inclusion of oxidative stress markers like malondialdehyde (MDA) and superoxide dismutase (SOD) adds depth to the biochemical perspective of the review.

Recommendations for Improvement

* Terminology Correction: Remove or clarify the term "coral peptides" in the list of organic components.

* Formatting: Some words (e.g., "stud," "duER FERR," "AR," "JAR") appear to be artifacts of the PDF layout or scanning process and should be cleaned up for the final version.

* Future Perspectives: While mentioned in the abstract, the body of the manuscript should explicitly detail how "biosensor technologies" (mentioned in Line 7) will bridge the gap between lab research and "routine clinical practice" (Line 16).