

"UNLOCKING THE MYSTERIES OF DENTAL HEALTH"

THE POWER OF BIOMARKERS FOR PULP CARE

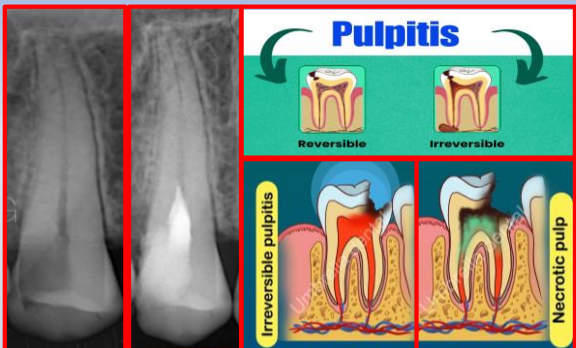
WHAT IS BIOMARKERS?

Cellular, biochemical or molecular alterations that are measurable in biological media such as human tissues, cells, or fluids.

- Hulka and colleagues

APPLICATIONS IN CONSERVATIVE DENTISTRY & ENDODONTICS

Early Diagnosis & Differentiating Conditions



Early Detection of Dental Caries

Prognosis & Severity Assessment

Treatment Monitoring



VARIOUS BIOMARKERS OF DENTAL PULP INFLAMMATION

Inflammatory

Cytokines (IL-1,6,8) , TNF- α
Prostaglandins like PGE2
C-reactive protein (CRP)

Microbial

Bacterial DNA/RNA: used for Identification of bacterial sp.
Endotoxins for bacterial activity

Tissue Destruction

Matrix metalloproteinases
Deoxypyridinoline a marker of bone resorption

Regenerative

Growth Factors
Bone Morphogenetic Protein
TGF- β VEGF

CHALLENGES AND FUTURE DIRECTION

Standardization



Technology & Integration

