

KIT ID SAMPLE-BAL-DISRUPTED-PROT	COLLECTION DATE 04/02/2026	CONFIRMATION NUMBER SAMPLE-BAL-DISRUPTED-PROT	RESULTS 04/04/2026	STAGE N/A	GRADE N/A	BOP % N/A	ORDERING PROVIDER Sample Provider Sample Dental Practice
--	--------------------------------------	---	------------------------------	---------------------	---------------------	---------------------	---

WHAT IT MEASURES

qPCR detection of DNA from 16 key oral bacteria — the species that drive periodontal disease, caries, fungal overgrowth, and nitric oxide production.

HOW TO READ IT

The Oral Balance Score (0–100) summarizes overall microbiome health — higher is better. Subscores reveal what's driving the result.

HOW TO USE IT

Pair the focus areas with your clinical assessment to guide prevention, treatment, and retesting cadence.

ORAL BALANCE SCORE

84 Mild Shift

Severe Dysbiosis	High Imbalance	Imbalanced	Mild Shift	Well Balanced
0–24	25–49	50–69	70–84	85–100

CLINICAL FLAGS

- Severity ceiling: DPS ≥ 35**
Contributes significantly to gum inflammation and periodontal disease risk.
Impact on Score: -10 points
- Pg + Td co-elevation**
-6 point penalty

PROTECTIVE CAPACITY

99 STRONG

Higher is better

INCLUDES:

- Commensal bacteria abundance 95
- Functional resilience (NO) 100

A weighted composite of commensal bacterial abundance and nitric-oxide-producing bacteria. Higher scores indicate a more resilient oral environment with built-in resistance to dysbiosis.

DISRUPTIVE PRESSURE

36 MODERATE

Lower is better

INCLUDES:

- Periodontal pathogens 36
- Cavity-causing bacteria 0
- Fungal overgrowth 0

A weighted composite of periodontal pathogen load, caries-associated bacteria, and fungal overgrowth. Higher scores indicate greater microbial burden driving inflammation, decay, and tissue breakdown.

NITRIC OXIDE SYSTEM

100 STRONG

Higher is better

- Rothia spp. 19.0
- Actinomyces spp. 18.0
- Veillonella spp. 18.0

NITRIC OXIDE PATHWAY

DIETARY NITRATE INTAKE
Nitrate-rich foods: leafy greens, beets, etc. are consumed.

SALIVARY NITRATE INTAKE
Nitrate is absorbed into the bloodstream and concentrated in the saliva.

ORAL BACTERIA CONVERSION
Beneficial oral bacteria (Rothia, Neisseria, Actinomyces) convert nitrate (NO₃) to nitrite (NO₂).

SYSTEMIC CONVERSION
Nitrite is swallowed and further converted into nitric oxide (NO) in the stomach.

PHYSIOLOGICAL BENEFITS
Improves blood flow and circulation, supports immune balance, promotes tissue healing.

Why this matters: Beneficial oral bacteria convert dietary nitrate into nitric oxide (NO), supporting circulation, immune balance, and healing. Without them, NO production drops — weakening these systems.

PERIODONTAL RISK SCORE

4 /5 High Risk

Your results show a high risk for periodontal disease based on the detection and pattern of key periodontal pathogens.

CLINICAL FLAGS

- Pg + Td co-detection**
This combination is strongly associated with active periodontal disease.

Pg + Td Synergistic Pattern PATTERN IDENTIFIED

Pg + Td co-detection. Strong indicator of active periodontal disease.

Pathogen	Level
Pg	11.0
Td	11.0
Tf	ND
Aa*	ND
Fa	ND
Fn-a	5.0

*Aa uses different thresholds (≥4 mod, ≥8 high). Color reflects Aa-specific classification.

CLINICAL FOCUS AREAS OBS 84 · Perio 4/5 · 4 recommendations

Schedule periodontal evaluation within 30 days HIGH

Periodontal Risk Score is 4/5 (High Risk). Professional evaluation to assess pocket depths, bone levels, and tissue status within 30 days is recommended.

Target Pg and Td through professional treatment HIGH

P gingivalis (DL 11) and T denticola (DL 11) co-detected. This synergistic combination is strongly associated with active periodontal disease. Professional scaling, root planing, and antimicrobial therapy are recommended.

Use targeted oral probiotic therapy HIGH

Oral probiotics (S salivarius K12/M18, L reuteri) support microbiome rebalancing and pathogen displacement. Protective capacity 99/100 (NO 100/100, Commensal 95/100). Use as lozenge or chewable after brushing — not swallowed capsule.

Retest in 60–90 days HIGH

Elevated risk profile. OBS 84/100 (Mild Shift). Active intervention is recommended. Retest within 60–90 days to track response to treatment and lifestyle changes.

ORAL BACTERIA PROFILE | 04/04/2026

PERIODONTAL PATHOGENS

CORE PERIO PATHOGENS

Pg 11 MODERATE <i>P gingivalis</i>	Td 11 MODERATE <i>T denticola</i>	Tf Not Detected <i>T forsythia</i>
--	---	---

AMPLIFIERS

Aa Not Detected <i>A actinomycete...</i>	Fa Not Detected <i>F alocis</i>
---	--

BRIDGE

Fn-a 5 LOW <i>Fn-animalis</i>

CARIES BACTERIA

S mut Not Detected <i>S mutans</i>	S sobr Not Detected <i>S sobrinus</i>
---	--

FUNGAL

Ca Not Detected <i>Candida spp. cf...</i>
--

COMMENSAL BACTERIA

S silvrs 18 HIGH <i>S salivarius</i>	S sngns 17 MODERATE <i>S sanguinis</i>	S mitis 18 HIGH <i>S mitis</i>
--	--	--

NITRIC OXIDE PRODUCING BACTERIA

Rothia 19 HIGH <i>Rothia narG</i>	Neis 17 MODERATE <i>Neisseria narG</i>	Veil 18 HIGH <i>Veillonella narG</i>	Actin 18 HIGH <i>Actinomyces n...</i>
---	--	--	---

UNDERSTANDING YOUR DETECTION LEVELS

DL = 40 - Ct · each +1 DL doubles DNA quantity

DL uses a log scale — each +1 DL doubles the bacterial DNA quantity. So the gap between DL 10 and DL 14 isn't "4 more" — it's **16x more**. Use the ruler and table below to interpret a value in context.

DL 0 ≈ 5	DL 3 ≈ 40	DL 6 ≈ 317	DL 9 ≈ 3K	DL 12 ≈ 20K	DL 15 ≈ 161K	DL 18 ≈ 1.3M	DL 21 ≈ 10.2M	DL 24 ≈ 81.4M
--------------------	---------------------	----------------------	---------------------	-----------------------	------------------------	------------------------	-------------------------	-------------------------

	Trace	Low	Moderate	High	
Category	Organisms	Trace	Low	Moderate	High
Periodontal*	<i>Pg, Td, Tf, Aa**, Fa, Fn-a</i>	>0–<3	3–<10	10–<14	≥14
Caries	<i>S. mutans, S. sobrinus</i>	>0–<3	3–<6	6–<10	≥10
Fungal	<i>Candida spp.</i>	>0–<3	3–<6	6–<12	≥12
Protective	<i>S. salivarius/sanguinis/mitis, Rothia/Neisseria/Veillonella/Actinomyces narG</i>	>0–<3	3–<12	12–<18	≥18

* The ruler above shows the periodontal-category thresholds (DL 3/10/14). Other categories use different cutoffs (see table).

** Aa (*A. actinomycetemcomitans*) is pathogenic at much lower abundance: **Moderate ≥4, High ≥8**. Trace and Low ranges match the other periodontals.

Trace (DL < 3) is below the noise floor for individual risk scoring. All values are semi-quantitative.

ⓘ Results should be interpreted with clinical findings and patient history. This test is not intended to diagnose or treat disease.

This real-time quantitative polymerase chain reaction (qPCR) test was developed and its performance characteristics were determined by IMMYLabs, 133 Ed Noble Pkwy, Norman, OK 73072 (CLIA# 37D2236199; COLA# 32679). This laboratory-developed test (LDT) was validated in accordance with the Clinical Laboratory Improvement Amendments of 1988 (CLIA), 42 U.S.C. § 263a. This test has not been cleared or approved by the U.S. Food and Drug Administration (FDA); however, FDA clearance or approval is not currently required. Results are for adjunctive use only and must be interpreted by a qualified healthcare provider in the context of clinical findings, patient history, and other diagnostic information. This test is not intended to diagnose or treat disease or to be used as the sole basis for patient management decisions.

Oral Balance Score (0–100): Overall measure of oral microbiome balance. **Protective Capacity:** Beneficial bacteria supporting oral health. **Disruptive Pressure:** Organisms associated with disease and imbalance. **Nitric Oxide System:** Bacteria involved in nitrate reduction and NO production. **Periodontal Risk Score (1–5):** Microbial risk pattern based on pathogen levels. All scores are semi-quantitative. **Lab Director:** Jeff McCormack, PhD, HCLD (ABB).

REFERENCES

- Socransky SS, Haffajee AD. Microbial complexes in subgingival plaque. *J Clin Periodontol.* 1998;25:134–144.
- Marsh PD. Are dental diseases examples of ecological catastrophes? *Microbiology.* 2003;149:279–294.
- Hajishengallis G. Periodontitis: from microbial immune subversion to systemic inflammation. *Nat Rev Immunol.* 2015;15:30–44.
- Lamont RJ, Koo H, Hajishengallis G. The oral microbiota: dynamic communities and host interactions. *Nat Rev Microbiol.* 2018;16:745–759.
- Kilian M, et al. The oral microbiome – an update for oral healthcare professionals. *Clin Microbiol Infect.* 2016;22:657–666.
- Rosier BT, et al. Resilience of the oral microbiota in health. *J Dent Res.* 2018;97:371–380.
- Rosier BT, et al. Nitrate as a potential prebiotic for the oral microbiome. *ISME J.* 2020;14:2459–2469.
- Hezel MP, Weitzberg E. The oral microbiome and nitric oxide homeostasis. *Free Radic Biol Med.* 2015;105:48–57.
- Takahashi N, Nyvad B. The role of bacteria in the caries process. *J Dent Res.* 2011;90:294–303.
- Slots J. Human viruses in periodontitis. *Periodontol 2000.* 2010;53:89–110.
- Alieh MA, et al. Systemic azithromycin versus amoxicillin/metronidazole as an adjunct in the treatment of periodontitis: A systematic review and meta-analysis. *Aust Dent J.* 2024.
- Walters J, Lai PC. Should antibiotics be prescribed to treat chronic periodontitis? *Dent Clin North Am.* 2015;59(4):919–933.

Testing Performed By: IMMYLabs, 133 Ed Noble Pkwy, Norman, OK 73072

CLIA# 37D2236199 | COLA ID# 32679

© 2026 OraPath By IMMYLabs, LLC All Rights Reserved