

# **Layered Pathogenic Interference: A Novel Hypothesis Linking Vitamin D Nuclear Receptor Obstruction to Recurring Mucosal Biomarkers and Immune Dysregulation**

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## **1. Abstract**

This paper introduces a novel biological hypothesis - Layered Pathogenic Interference - in which microbial organisms or their byproducts impair Vitamin D nuclear receptor (VDR) function through tissue-specific and class-specific interference. This obstruction may contribute to immune dysregulation, persistent inflammation, and altered gene expression. The hypothesis is supported by a reproducible physiological biomarker: geometric patterns on the tongue mucosa, emerging reliably every 24-36 hours following a proprietary protocol involving carnosic acid and defined probiotic strains. This phenomenon has been recorded for over three years, with the last 18 months under a stable, consistent protocol.

## **2. Hypothesis**

Vitamin D nuclear receptors (VDRs) are key regulators of immune and metabolic gene expression. We hypothesize that specific classes of pathogens or their byproducts - such as Bacterial ligands, viral proteins, or metabolic toxins - can obstruct VDR function by directly or indirectly blocking receptor activation. This leads to suppression of VDR-mediated gene transcription and results in dysregulated immunity, inflammation, and dysfunction in affected tissues.

Crucially, the term 'layered pathogenic interference' does not refer to multiple pathogens stacking on a single receptor. Instead, it reflects a sequential, system-specific clearance process. Each 'layer' represents a different tissue system or VDR-expressing organ - such as pancreatic cells, gastrointestinal epithelium, olfactory neurons, or mucosal immune sites. When one class of pathogens is cleared (via immune response and receptor reactivation), VDR function is restored in that system, allowing gene expression to resume appropriately.

Over time, this leads to a progression through multiple layers of pathogenic interference, reflected visibly

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through distinct geometric patterns on the tongue that evolve with each cycle.

## **3. Attribution of Prior Work**

The foundational concept that pathogens can obstruct Vitamin D receptor function is drawn from the work of Dr. Trevor Marshall, who proposed that bacterial ligands may bind to and block the VDR, contributing to chronic inflammation and immune dysfunction.

This paper builds on that premise by introducing the original concept of 'layered' interference: the idea that different classes of pathogens impair VDRs in a tissue-specific sequence, and that immune restoration occurs in layers, possibly aligned with organ systems and their respective VDR expression profiles.

## **4. Intervention Protocol**

The author utilized a proprietary oral protocol involving a natural plant-derived compound rich in carnosic acid (a diterpene known for its VDR-agonist, antioxidant, and antimicrobial properties) and a defined combination of probiotic strains, with a total CFU count of 5 billion per capsule. These were administered in a multi-phase daily regimen over a 3-year period.

For the last 18 months, the same daily protocol was followed with no changes in dose or timing. Prior to this, both higher and lower doses were explored. Adjustments did not affect the recurrence timing of the observed phenomenon, which consistently followed a 24-36 hour biological cycle. This suggests the phenomenon is not driven purely by concentration-dependent pharmacodynamics. Instead, this consistency eludes to an underlying biological rhythm, possibly a circadian-like or homeostatic immune cycle that governs receptor clearance, immune restoration and pattern expression timing.

## **5. Observational Data**

Over three years of consistent tracking, the author recorded highly structured, repeatable geometric patterns emerging on the surface of the tongue, including: spirals, concentric arcs or rings, wave-like contours, lattice or mesh structures, and repigmentation zones.

These patterns were not localized to a single area. Instead, multiple distinct shapes could be seen across different regions of the tongue during the same cycle - most commonly on the back left, back middle, back right, sides, and front tip. This spatial distribution supports the hypothesis that different zones of the tongue may reflect systemic immune activity occurring in distinct tissue systems.

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More than 1,000 cycles have been observed. The interval has remained stable - between 24 and 36 hours - despite variations in food, hydration, and environment. This suggests a deeply regulated biological rhythm, likely connected to receptor activity or immune system timing.

### **6. Proposed Model: Sequential VDR Clearance**

1. A plant-derived compound rich in carnosic acid activates VDRs in target tissues.
2. Probiotics alter microbial populations, potentially triggering immune detection and pathogen die-off.
3. As one class of pathogens is cleared, a specific tissue system's VDRs are unblocked.
4. Normal transcription resumes in that system, and its clearance is reflected as a distinct geometric tongue pattern.
5. This cycle continues, moving through layers of tissue-specific VDR pools, possibly tied to microbial hierarchy or immune targeting patterns.

### **7. Implications and Applications**

1. A Non-Invasive Biomarker for Immune System Activity and VDR Function:

Geometric tongue patterns observed in this protocol may serve as a visible, real-time biomarker for immune function, microbial clearance, and Vitamin D nuclear receptor (VDR) reactivation. This would allow clinicians and researchers to monitor chronic inflammation or immune dysfunction without relying on blood tests or imaging.

2. A Platform for Mapping Systemic Microbial Clearance by Tissue Layer:

The layered pathogenic interference model suggests that different tissue systems restore function sequentially as pathogens are cleared. This could provide a new framework for understanding systemic immune recovery, particularly in diseases involving chronic microbial presence or nuclear receptor disruption.

3. A Blueprint for Therapeutic Protocols that Synchronize Immune and Microbial Reset:

This research introduces a reproducible method (involving carnosic acid and probiotics) that elicits rhythmic immune-microbial responses. This lays the groundwork for therapies that enhance VDR activation, guide microbial balancing, and use visible biomarkers to assess progress and personalize treatment cycles.

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## Disclaimer

Specific strain identities and preparation details are withheld to protect potential intellectual property. Researchers may contact the author for collaboration under appropriate confidentiality agreements.

## Appendix A

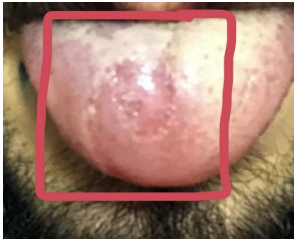


Figure 1: Observed  
Sept. 20th 2022



Figure 2: Observed  
March 20th 2024



Figure 3: Observed  
August 14th 2022

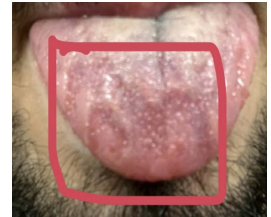


Figure 4: Observed  
July 18th 2023



Figure 5: Observed  
June 6th 2025

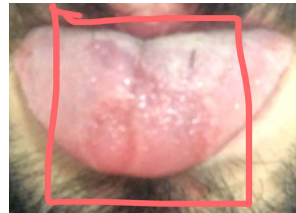


Figure 6: Observed  
November 13th,2022

## 8. Future Work and Funding Needs:

Continued exploration of the proposed temporal mucosal biomarker requires uninterrupted use of rosemary extract and specific probiotic strains as outlined in the protocol. Additionally, securing long-term intellectual property protection and acquiring basic research infrastructure are necessary next steps.

A provisional patent application covering the described method and biomarker system has already been filed. The next phase includes pursuing full utility patent protection to secure long-term intellectual property rights.

A total of \$18,000 in funding is being sought to support the following:

\$8,000 for 12 months of protocol materials (rosemary oil and probiotic capsules), \$8,000-\$9,000 for legal preparation and filing a non-utility patent, \$1,000-\$2,000 for a dedicated research laptop and documentation tools. These funds will ensure protocol continuity, support the documentation of additional pattern data, enable legal protection of the intellectual property, and provide the necessary tools for deeper investigation. Interested collaborators and supporters are encouraged to reach out and will be acknowledged in future publications.

## **9. Next Steps**

1. Gather Peer Feedback
2. Maintain continuous administration of protocol materials for 12 additional months of data collection.
3. Identify collaborators with lab access for microbial sequencing, regular genetic testing, cytokine profiling, etc..
4. File a non-provisional utility patent to secure long-term intellectual property rights.
5. Prepare early data for future publications or peer-reviewed validation studies.

## **References:**

Marshall, T. G. (2008). Vitamin D Receptor in Chronic Disease Pathogenesis: Bacterial Ligands as Antagonists in Autoimmune Disease and the Human Metagenome. Retrieved from NIH PMC.

## **Contact Information:**

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