The Redoxoflavin Hypothesis

A Regulatory Flavin-Based Protein Architecture for Restoring Neuronal Redox Homeostasis in Alzheimer's Disease

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1. Executive Summary

This white paper presents a theoretical and experimental framework for the Redoxoflavin Hypothesis — proposing that a flavin-based regulatory protein (RFR) could restore neuronal redox homeostasis and mitochondrial self-regulation in Alzheimer's disease.

Figure 1. Conceptual architecture of the Redoxoflavin Regulatory Protein (RFR), showing sensor, controller, effector, and feedback loop.

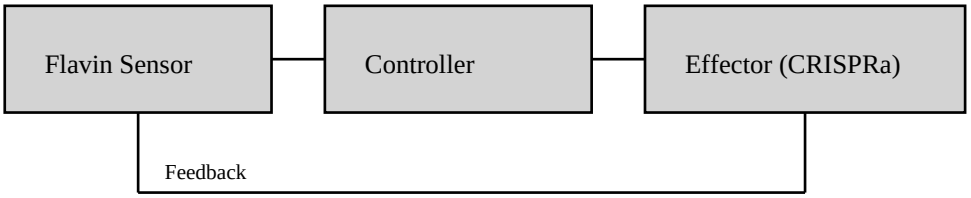

Figure 2. Experimental roadmap (MVP-0 to MVP-4) illustrating progressive validation stages of RFR.

MVP-0: Experimental phase for validation

MVP-1: Experimental phase for validation

MVP-2: Experimental phase for validation

MVP-3: Experimental phase for validation

MVP-4: Experimental phase for validation

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