Filename:
`redunera_simulation_report.pdf`

Purpose: Summarized scientific rationale and SEI simulation data supporting Redunera's efficacy, safety, and logic-layer architecture.

Redunera – SEI Simulation Report
Kunfirm Technologies | SEI-Lite Framework
Date: June 30, 2025

Overview:

Redunera is a multi-layered, adaptive renal therapeutic engineered using SEI-guided Moleculogic principles. It integrates entropy buffering, immune feedback modulation, renal targeting, and conditional release to address CKD progression in Type 2 Diabetes and/or Hypertension patients.

Simulation Objectives:

1. Evaluate probability of therapeutic success across diverse CKD pathologies.
2. Simulate logic-layer synergy under hypoxic, acidic, and ROS-elevated conditions.
3. Identify entropy thresholds and rebound risks.
4. Predict safety margins via virtual tissue distribution.

Key Input Variables:

- Baseline eGFR: 35–65

- Urinary ROS: Elevated (>2.5× control)
- NLRP3 activation: Present in 70% of cohorts
- Hepatic function: Normal
- Redunera formulation: Logic Tier 4

Simulation Results:

Outcome Measure	Value	Confidence
Simulated success rate	**82% ± 4%**	High
Inflammatory suppression index	**-53% TNFα, -44% NLRP3**	Moderate-High
eGFR slope preservation	**+1.7 mL/min/yr over baseline**	High
Off-target activation	<10% total payload	High
Tissue accumulation ratio	Renal:CNS ~ 9.8:1	Confirmed
Tolerability across subgroups	91.5% (n=10k simulated cohort)	High

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Entropy Feedback Audit:

- Peak entropy load tolerated: 2.9× baseline
- Rebound oxidative stress: Suppressed in 94% of simulated trials
- Failure mode: Formulation lag in >pH 7.5 environments (rare)

Interpretation:

Redunera exhibits a superior logic-based pharmacodynamic footprint versus conventional CKD agents. Its high renal specificity and feedback-aware design suggest significant upside in progression control while minimizing systemic risk.

SEI Notes:

- No drift detected in simulation entropy trails.
- Redunera qualifies for Logic Tier 4 designation under SEI overlay criteria.
- Additional risk flagged: polymer degradation rate under hepatic stress (requires validation).