

Technology/ Title	Gut FcRn–IgG Checkpoint in Metabolic Inertia	
Subtitle	Seeking Innovations: FcRn Repurposing & Oral Delivery	
Technology Type	<input checked="" type="checkbox"/> Biotechnology	<input type="checkbox"/> Device/Diagnostics
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Technology Description	<p>The Unmet Need: Current metabolic therapies (e.g., GLP-1 agonists) are effective, but cessation often leads to rapid rebound of metabolic dysfunction. Our research identifies "Metabolic Inertia"—the physiological persistence of dyslipidemia and altered energy handling even after dietary correction—as a key driver of this recurrence.</p> <p>The Innovation: We have identified the intestinal neonatal Fc receptor (FcRn)-IgG interaction as the molecular "clamp" that sustains this maladaptive metabolic state.</p> <p>Key Data & Mechanism:</p> <ol style="list-style-type: none"> Overrides Metabolic Inertia: In a diet-switch mouse model, blocking the FcRn-IgG interaction at the gut interface normalized serum triglyceride trajectories that otherwise remained elevated despite dietary improvements. Superior Safety Profile: Unlike current systemic FcRn inhibitors (e.g., for myasthenia gravis), our approach achieves metabolic rescue without depleting systemic serum IgG, effectively decoupling metabolic efficacy from systemic immunosuppression risks. Validated Target: Fecal analysis confirms functional displacement of endogenous IgG at the gut barrier, pinpointing the site of action. 	
Intellectual Property	<p>US Provisional Patent Filed (January 30, 2026)</p> <p>Application No.: 63/972,580</p> <p>Title: METHODS AND USES FOR MODULATING HOST LIPID METABOLISM VIA REGULATION OF FCRN–IGG INTERACTIONS AFFECTING GUT WALL–LOCALIZED IGG</p>	
Key Publications	Manuscript in preparation. Data package available for review under Confidential Disclosure Agreement (CDA).	
Business Opportunity	Partners: Companies with oral delivery platforms (e.g., pH-dependent release, smart capsules) or small molecule capabilities to develop a truly gut-restricted therapeutic.	

	<p>Co-Development: Collaboration to translate this lipid-normalizing mechanism into a therapeutic for long-term weight maintenance and obesity recurrence.</p>
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