The NanoScope
Insights and innovations from the frontiers of nanoneurosciences.

NANO NEUROSCIENCES

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Secured the Foundational IP for our Core Nano Technology Platform

NanoNeurosciences' nanocarrier technology intellectual property was filed as a **PCT** (Patent Cooperation Treaty) application on **April 7, 2026**, establishing international protection and enabling future national phase entries. This patent represents the core platform technology underlying all future lipopeptide-based nanomedicine products, forming the foundational basis for the design, development, and commercialization of our pipeline.

Advancing to IND: Pre-IND Engagement Initiated

Pre-IND Meeting Requested for our Investigational Glaucoma Therapy: Pre-IND #182273.

What is a Pre-IND meeting and why it matters

A Pre-Investigational New Drug (Pre-IND) meeting is a formal scientific exchange between a drug sponsor and the U.S. Food and Drug Administration (FDA), held prior to the submission of an Investigational New Drug application. It is one of the most strategically important milestones in early drug development.

The meeting is designed to:

- **Align the development program with FDA expectations** before significant resources are committed to pivotal studies
- **Clarify the data package required to support first-in-human (FIH) trials**, including nonclinical pharmacology, toxicology, pharmacokinetics, and chemistry, manufacturing, and controls (CMC)
- **Identify potential deficiencies** in the existing preclinical dataset and provide an opportunity to address them proactively
- **Establish a shared understanding** of the proposed clinical indication, patient population, route of administration, and dose rationale
- **Reduce regulatory risk** by ensuring the IND submission will meet the threshold for clinical trial authorization

For **NC130**, which is being developed as a novel therapeutic targeting ciliary body and trabecular meshwork (TM) function in glaucoma, the Pre-IND meeting represents a **critical checkpoint** to confirm that our preclinical evidence base is sufficient to support a **safe and scientifically justified first-in-human study.**

NC130: Advancing a Novel Approach to Glaucoma with Strong Preclinical Momentum

NC130 is an investigational compound designed to modulate intraocular pressure (IOP) through a mechanism distinct from existing glaucoma therapies. Preclinical studies have demonstrated robust activity following intravitreal (IVT) administration, with a comprehensive nonclinical program now nearing completion.

The studies conducted to date span chemical manufacturing and materials science characterization (transmission electron microscopy [TEM], ion coupled mass spectrometry [ICP-M/S], atomic force microscopy [AFM] and nuclear magnetic resonance [NMR]), human donor cell viability and toxicity, *in vitro* and *in vivo* pharmacology, biodistribution, pharmacokinetics, and supporting biochemistry, cell biology, and molecular biology investigations.

NC130 Demonstrates Strong Preclinical Validation Across Key Studies

Foundational Science:

Supporting investigations in biochemistry (NC130-BIO-001), cell biology (NC130-BIO-002), and molecular biology (NC130-BIO-003) establish the mechanistic foundation underlying NC130's therapeutic rationale. These studies collectively characterized target engagement, receptor activation, and the downstream biochemical cascades initiated upon compound binding, as well as endocytic uptake in human cells and transcriptional responses in human trabecular meshwork (HTM) cells. Complementing these findings, the program also validated the cellular reversibility of an established glaucomatous *in vitro* human cell model, specifically, a TGF-β2-induced actin stress fiber model, confirming NC130's capacity to restore cytoskeletal homeostasis in a disease-relevant cellular context.

Cell Viability & Toxicity Studies:

established the cytotoxic profile of NC130 in relevant ocular cell models, defining concentration ranges associated with acceptable cellular tolerability and informing dose selection for subsequent *in vitro* and *in vivo* work.

In Vitro Pharmacology:

characterized the human pharmacological activity of NC130 at the cellular level.

In Vivo Pharmacology:

Three arms of *in vivo* pharmacology were conducted under study NC130-PK-002023 (acute topical and acute IVT) and NC130-PK-12825 (chronic IVT). These studies evaluated the pharmacodynamic response to NC130 across relevant exposure durations and delivery routes, generating proof-of-concept data supporting its IOP-lowering potential and local tolerability.

Pharmacokinetics & Biodistribution:

Biodistribution following both topical and IVT administration was assessed under NC130-PK-001, mapping the ocular and systemic tissue distribution of NC130. Pilot single-dose IVT pharmacokinetics were further characterized in NC130-PK-13125, providing exposure data to support dose rationale and safety bridging.

Toxicology:

Pilot studies were conducted via single IVT administration (NC130-TOX-12925A) and repeated intravenous dosing (NC130-TOX-12925B), assessing local and systemic tolerability and identifying any adverse findings relevant to first-in-human risk assessment.

Preparing for Pre-IND Submission: A Key Step Toward Formal FDA Engagement

We have scheduled our Pre-IND meeting for July 15th, 2026.

With the nonclinical program substantially complete, NC130 program is advancing towards formal FDA engagement through a Pre-IND meeting.

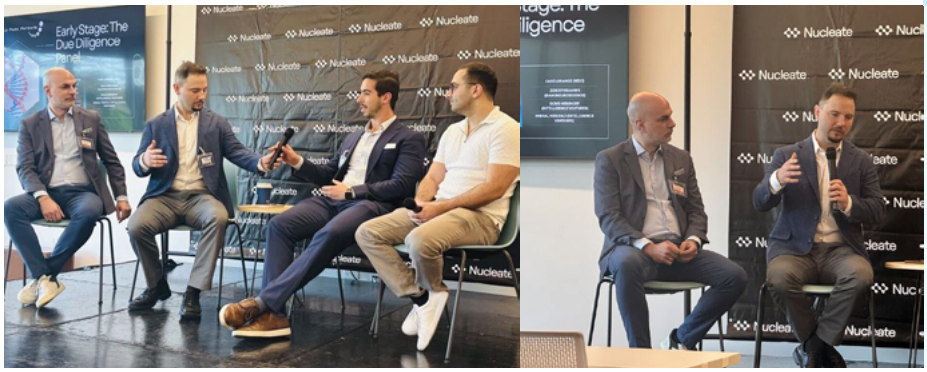
The upcoming Pre-IND meeting, represents a critical milestone to confirm the strength of the current nonclinical package and define any remaining studies, ahead of IND submission. The team remains focused on a rigorous, data-driven development pathway that prioritizes patient safety while advancing a differentiated therapeutic option for patients with glaucoma and elevated intraocular pressure.

Key Activities underway include:

1. **Completion and quality review** of all study reports across the 13 study IDs listed above
2. **Integrated summary** of nonclinical pharmacology and toxicology, synthesizing findings across routes of administration and study designs
3. **CMC briefing document** outlining the current state of compound characterization, formulation, and manufacturing
4. **Clinical development plan**, including proposed indication, patient population, study design, and dose rationale for the Phase 1 trial
5. **Submission of the Pre-IND meeting request to FDA** with a complete briefing document and specific questions for agency feedback

Elevating Visibility and Advancing Strategic Engagements

NanoNeurosciences participated in the **Bio on the Bay** event, represented by its CEO, Zois Syrgiannis, PhD. During the event, the company engaged with industry leaders, investors, and potential partners, presenting its nanocarrier platform and discussing opportunities for collaboration and strategic growth.



The participation strengthened **NanoNeurosciences' visibility** within the life sciences ecosystem and supported its ongoing efforts toward clinical translation and commercialization.

Sharpening Strategy and Driving Execution for a Pivotal Year Ahead Chicago, Early 2026

As we rang in the new year, the NanoNeurosciences, Inc. leadership team convened in Chicago for a full-day strategic summit bringing together our founders, advisors, and EOS system leader. The meeting served as a dedicated forum to align on the company's annual vision and establish the quarterly rocks that will drive execution across all functions in the year ahead. Operating within the Entrepreneurial Operating System (EOS) framework, the session challenged each leader to critically evaluate progress against long-term objectives, identify key priorities for the quarters ahead, and ensure organizational accountability from the top down. This gathering proved to be more than a planning exercise, it was an opportunity for the minds behind "NC130" to sit in the same room, sharpen our shared vision, and set the operational cadence that will carry the program through what promises to be a defining year for the company and the patients we aim to serve.

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