NEOLUMINABIO.COM

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NeoLumina Bioscience Inc.

Precision Psychedelic Therapeutics for Mental Health Disorders

The Problem

Eating disorders are the deadliest psychiatric conditions, yet current pharmacologic treatments offer modest efficacy, poor durability, and high relapse rates — creating a significant unmet need for transformative therapies.

Eating Disorders: High Mortality, Limited Durable Therapies

Binge Eating Disorder (BED) is the most prevalent eating disorder, representing the largest therapeutic opportunity within the category.

Despite available therapies, many patients fail to achieve sustained remission, highlighting the need for more durable treatment approaches.

High psychiatric and metabolic comorbidity rates materially increase disease burden and long-term healthcare costs.

There is a clear unmet need for therapies that deliver sustained remission and improved long-term outcomes.

No.1

Cause of Death among Psychiatric Conditions

Why Now?

A Rare Convergence Has Made Psychedelic Medicine Clinically and Commercially Viable

Clinical Validation

Multiple psychedelic compounds have demonstrated meaningful efficacy and safety in controlled human trials across psychiatric indications.

Regulatory Pathways

Regulatory agencies including the FDA have established defined pathways for advancing psychedelic therapies through mid- and late-stage development.

Industry Infrastructure

Established CDMOs and CROs now support GMP manufacturing, formulation, and clinical execution for psychedelic compounds.

Unmet Need

Decades of conventional drug development have failed to improve outcomes in eating disorders, underscoring the need for novel mechanisms.

Established Partnerships

Strategic partnership with Catalent to support formulation development and scalable manufacturing of NEO020.

Pharma Appetite

Large pharmaceutical companies are actively pursuing de-risked CNS assets through licensing and acquisition.

Our Solution

PEX010

NeoLumina holds a **global development license** for PEX010, a pharmaceutical-grade psilocybin-based compound positioned for Binge Eating Disorder and related Eating Disorder conditions.

NEO020

In partnership with **Catalent**, NeoLumina plans to develop NEO020, a proprietary psilocin formulation designed to enhance therapeutic outcomes and dosing precision.

Why it matters

Positive clinical data (PEX010) and a proprietary psilocin formulation (NEO020) support high-value, partnerable intellectual property

Clinical and Scientific Rationale

Psilocin is a 5-HT2A receptor agonist that modulates prefrontal–limbic circuitry involved in impulse control, reward sensitivity, and compulsive behavior — core pathophysiologic drivers of Binge Eating Disorder.

Ingestion

Pharmaceutical-grade psilocybin undergoes hepatic conversion to psilocin following oral administration.

Metabolism

Alkaline phosphatase converts psilocybin to psilocin, introducing inter-individual pharmacokinetic variability.

Transport

Proprietary psilocin formulation is planned in partnership with Catalent to enhance pharmacokinetic predictability and dosing precision.

Activation

Psilocin acts on serotonin receptor 5-HT2A, promoting rapid synaptic plasticity and reorganization of prefrontal–limbic circuits associated with compulsive eating behavior.

Clinical and Scientific Rationale

Neuroplasticity enables durable outcomes

Clinical Validation

Psilocybin has demonstrated rapid neuroplastic network modulation within prefrontal–limbic circuitry implicated in compulsive-spectrum disorders, supporting a limited-dosing paradigm with potential for sustained behavioral change.

PEX010 Advantage

1. Pharmaceutical-grade psilocybin oral formulation.
2. Controlled oral dosing with characterized PK profile
3. Regulatory pathway aligned with FDA and Health Canada frameworks

Clinical Precedent

Human studies across compulsive-spectrum disorders demonstrate:

- ➔ **Rapid onset**
- ➔ **Sustained efficacy**
- ➔ **Favourable safety under supervision**
- ➔ **Translational overlap supports rationale in BED.**

"These conditions share overlapping neurocircuitry with Binge Eating Disorder (BED). Emerging evidence suggests psilocybin significantly reduces compulsion."

Traction and De-Risking

Phase 1

Initial stage of clinical testing in humans, focusing on assessing safety, determining appropriate dosages, and studying PK/PD in a small group.

Phase 2

Evaluates effectiveness and further assesses safety in a larger group with the target condition, identifying the optimal dosage for future testing.

Phase 3

Large-scale study that tests efficacy and safety in hundreds to thousands of participants to support regulatory approval for general use.

A High-Value Pharma Scale Asset

A **Phase-2-ready** Neuropsychiatric Asset with Partnering Potential

Clinical Validation

- Binge Eating Disorder is the **largest eating disorder indication** by prevalence
- Chronic, relapsing course with limited durable pharmacologic options
- High psychiatric and medical comorbidity burden

Multi-Value Expansion Opportunities

- Additional eating disorder subtypes (anorexia, bulimia)
- Broader compulsive-spectrum disorders
- Formulation-based lifecycle expansion via NEO020

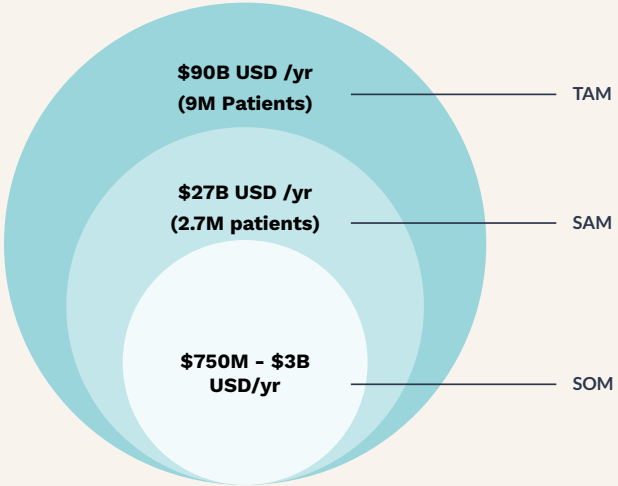
Clear Pharma Partnership Precedent

- Phase 2 efficacy commonly precedes strategic partnering
- Standard structure: upfront + milestones + royalties
- Strong acquisition appetite for de-risked neuropsychiatric programs

"Our pharmaceutical-grade PEX010, aligns perfectly with all regulatory and clinical development requirements"

Market Opportunity

Binge Eating Disorders Market (USA)



Therapy Class	Annual / Treatment Cost	Dosing Profile	Value Proposition
Conventional SSRIs	$500 - $1,500	Chronic Daily	Low efficacy, high side-effect profile
Specialty CNS Drugs	$5,000 - $15,000	Chronic / Episodic	Improved outcomes, high cost
NeoLumina (Target)	**Premium Specialty**	**Limited Dosing**	**Durable benefit, meaningful cost offsets**

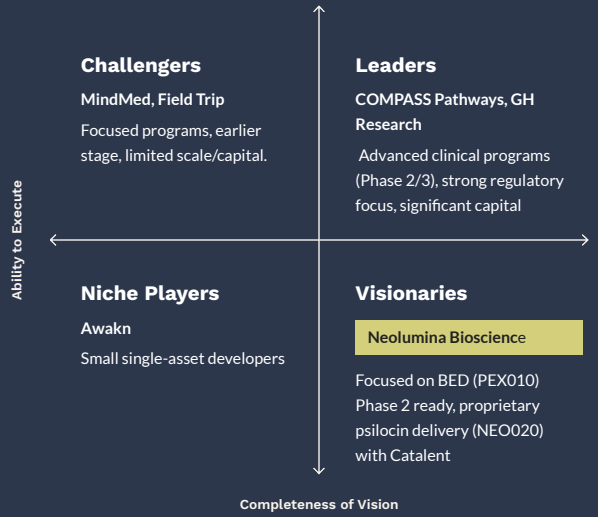
*Comparable CNS specialty therapies support pricing between $10,000 and $15,000+ per treatment course.
Total Addressable Market (TAM) | Serviceable Addressable Market (SAM) | Serviceable Obtainable Market (SOM)

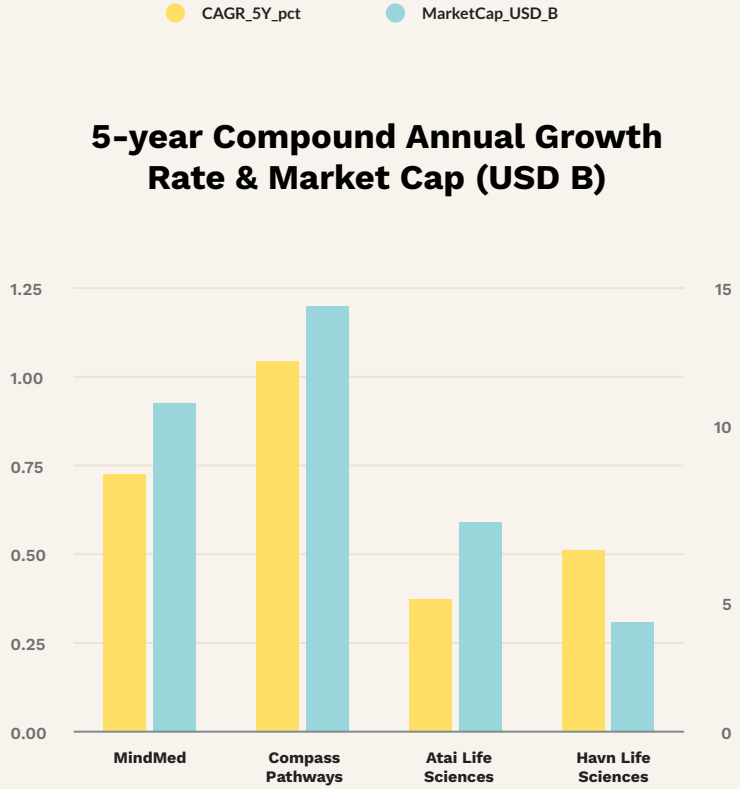
Total Mental Health Market in USA

TAM: $960B USD /yr | SAM:$384B USD /yr | SOM: $11.52B USD /yr

Binge Eating Disorder (BED) represents a massive core indication with tens of millions of patients and limited effective pharmacologic options.

Competitive Landscape





NeoLumina Differentiation: Unlike broad platform players, NeoLumina focuses on high-unmet-need eating disorders (PEX010) and a world-class strategic partnership with Catalent (NEO020).

Business Model and Exit Paths

Business Model

Develop Clinical Assets

Focus on high-value, de-risked psychedelic compounds for underserved indications.

Generate Phase 2 Data

Primary value inflection driven by clinical efficacy data in Binge Eating Disorder.

Partner and/or Raise

Leverage data to secure pharma licensing or raise capital at a significantly higher valuation.

Exit Path

Capital-Efficient Development

Monetization through strategic pharma partnerships or acquisition.

Licensing Structure

Upfront payments, development/commercial milestones, and tiered royalties.

6-10x Multiplier

Expected valuation increase upon positive Phase 2 clinical data readout.

Optional IPO Path

Strategic flexibility to maximize long-term shareholder value.

Phase 2 clinical efficacy represents the key value creation milestone for investor liquidity.

GTM Strategy

Initial Adoption

Focused entry into high-impact clinical environments:

- ➔ Eating Disorder specialized centers
- ➔ Psychiatry specialists & academic medical centers
- ➔ Concentrated prescriber base for targeted commercialization

Designed for specialty-care administration.

Reimbursement

Strategic positioning for maximum payer value:

- ➔ Premium specialty pricing supported by high unmet need
- ➔ Potential cost offsets from obesity and psychiatric comorbidities
- ➔ Health-economic data generation planned during Phase 2 (psychiatric and metabolic comorbidities)

Commercialization

Scalable path to global market presence:

- ➔ Primary path: Pharmaceutical partnership following Phase 2 efficacy
- ➔ Leveraging existing psychiatry sales and global infrastructure
- ➔ Expansion into additional psychiatric and medical indications

Development Plan & Key Milestones

Timeline designed to achieve critical value inflection point with positive PEX010 Phase 2 data and NEO020 product development initiation

2026 H1	2026 H2	2027 H1	2027 H2	2028 H1	2028 H2
Close Tactical Financing. PEX010 IND prep, NEO020 prototype initiation	PEX010 IND Submission and Approval	PEX010 clinical trial initiation, Series B Financing	NEO020 Prototype Development (Catalent)	PEX010 Phase 2 Primary Data Readout	NEO020 Clinical Development Initiation

Our Team

"Combining world-class scientific expertise and product development with a deep commitment to patient outcomes."

Dr. Gaetano Morello, ND
CEO & Founder

A visionary leader in natural medicine and clinical research, driving the strategic direction and mission of NeoLumina.

Jeremy Baker
CBO & Founder

Expert in business development and strategic partnerships, focusing on commercialization and pharmaceutical alliances.

Dr. Mark Gold, MD
Chief Medical Officer

World-renowned expert in addiction and psychiatry, providing clinical oversight and guiding the development of therapeutic protocols.

Dr. Wendy Oliver Pyatt, MD
Eating Disorder Specialist

Leading authority in the treatment of eating disorders, ensuring the clinical programs are patient-centered and evidence-based.

Funding to Date and Funding Request

Funding History 2021-2026

Allocation Category	Amount
Research & Development	$245,259
General & Administrative (G&A)	$181,827
Business Development & Commercial	$31,124
Regulatory Development & FDA Readiness	$13,780
Total Investment to date USD	**$472,000**

*Full financials and cap table available for review

$2.7M Tactical Funding Request

Allocation Category	Amount
PEX 010 IND Preparation & Regulatory	$450.000
PEX010 Clinical Trial Setup & Initiation	$1,100,000
NEO020 Formulation	$420,000
License Fees, G&A and Operational Expenses	$420,000
Total Investment to USD	**$2,700,000**

*Funding is designed to reach key value inflection points, including IND acceptance and first patient dosed. Full 1-year projected spend breakdown and business plan available by month.

Use of Proceeds (Phase 2 Value Creation)

Strategic Capital Allocation to Drive Clinical Validation and Asset Value

Allocation Breakdown

Clinical Trials (Phase 2)	**55%**
R&D & Formulation (NEO020)	**25%**
Regulatory & IP Strategy	**10%**
Operations & G&A	**10%**

**Funding is designed to reach key value inflection points, including IND acceptance and first patient dosed. Full 1-year projected spend breakdown and business plan available by month.*

Key Strategic Objectives

- Initiate and complete Phase 2 clinical trials for PEX010 in Binge Eating Disorder.
- Finalize proprietary psilocin drug candidate (NEO020) prototype in partnership with Catalent.
- Expand global intellectual property portfolio and secure method-of-use patents.

Vision and Closing

Building a Partnerable Neuropsychiatric Asset with Near-Term Value Inflection

Assets in Place

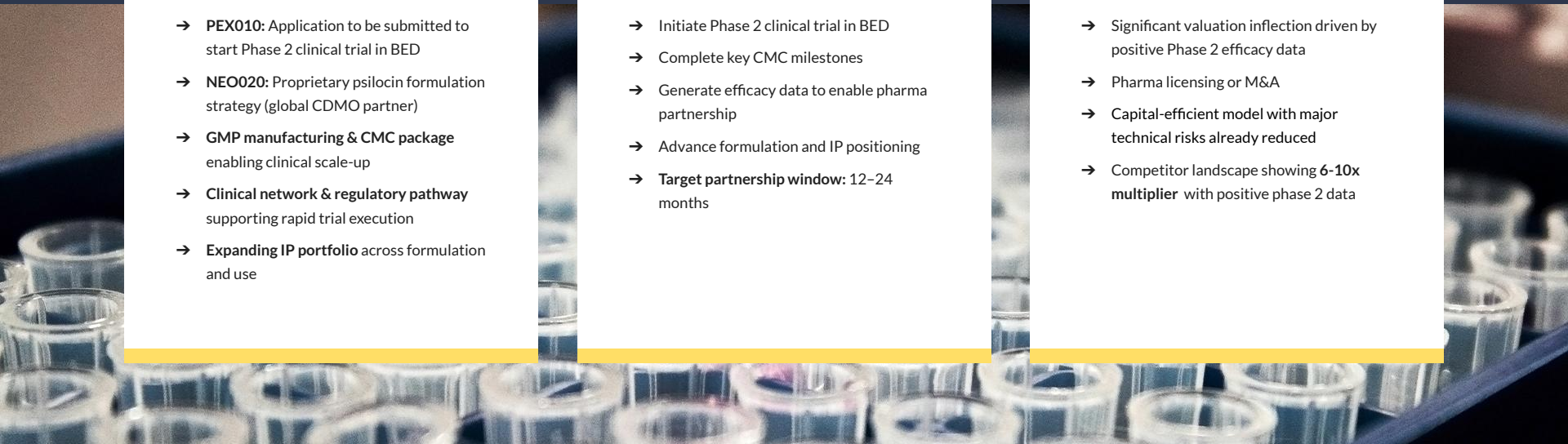
- **PEX010:** Application to be submitted to start Phase 2 clinical trial in BED
- **NEO020:** Proprietary psilocin formulation strategy (global CDMO partner)
- **GMP manufacturing & CMC package** enabling clinical scale-up
- **Clinical network & regulatory pathway** supporting rapid trial execution
- **Expanding IP portfolio** across formulation and use

Path to Value

- Initiate Phase 2 clinical trial in BED
- Complete key CMC milestones
- Generate efficacy data to enable pharma partnership
- Advance formulation and IP positioning
- **Target partnership window:** 12–24 months

Investor Value

- Significant valuation inflection driven by positive Phase 2 efficacy data
- Pharma licensing or M&A
- Capital-efficient model with major technical risks already reduced
- Competitor landscape showing **6-10x multiplier** with positive phase 2 data



Contact and Data Room

Jeremy Baker
Chief Business Officer/Founder

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Investor Data Room

Qualified investors may request access to our secure data room for comprehensive due diligence materials, including:

- ➔ Clinical Trial Protocols Summary
- ➔ IP Portfolio
- ➔ Detailed Financial Models
- ➔ Strategic Partnership Agreements

Appendix: Strategic Advisor

Dr. Josh Siegel, MD

Clinical Research

Researcher at Washington University School of Medicine with research focusing on the translational sciences of psilocybin, ketamine, and nitrous oxide.

Dr. Beverley Richardon MD

Neuroscience

Experience in mental health care, collaborating globally on research of medicinal plants.

Dr. Lori Brotto, PhD

Psychologist

Registered Psychologist. She is the Executive Director of the Women's Health Research Institute of BC located at BC Women's Hospital

Dr. Michael Murray, ND

Natural Medicine

Widely regarded as one of the world's leading authorities on natural medicine.

Dr. Christine Smith PhD

Mycology Expert

Trained in the biology and ecological roles of mushrooms, often focusing on their medicinal properties and potential therapeutic applications

Dr. Nicole Avena MD

Neuroscientist

Associate Professor of Neuroscience, Mount Sinai School of Medicine.

Appendix: Tactical Funds Usage Planning

Month 0

Activities: fund close; Catalent project initiation & nitrosamine; pay GMP API in full; regulatory/IP kickoff; initial salaries; TheraPsil setup costs.

Outflow: 608,000

Month 1

Activities: Catalent solubility screening; CTA/amendment drafting (reuse TheraPsil master files); salaries; early TheraPsil coordination; regulatory/IP work.

Outflow: 96,875

Month 2

Activities: Catalent excipient compatibility study; finalize CTA/REB materials; pharmacy SOP alignment; salaries; TheraPsil prep.

Outflow: 98,450

Month 3

Activities: Catalent finished product assay development begins; submit CTA/amendment to Health Canada; salaries; TheraPsil operational support.

Outflow: 126,875

Month 4

Activities: Catalent prototype fill formulation — part 1; REB rapid review responses; site readiness; salaries; TheraPsil recruitment steps; regulatory followups.

Outflow: 107,663

Month 5

Activities: Catalent prototype fill formulation — part 2; assay confirmations; subject screening intensifies; salaries; TheraPsil participant prep.

Outflow: 107,662

Month 6

Activities: Catalent manufacture non-cGMP prototype batches; begin IND/GLP studies (large tranche starts); Catalent optional activities (μFLUX, extra testing etc.); salaries; major TheraPsil operational tranche (trial delivery prep & some payments); regulatory/IP support.

Outflow: 363,200 (includes Catalent optional $38,450)

Month 7

Activities: Catalent ongoing dev work; IND/GLP studies continue; site activations; participant preparatory therapy; salaries; TheraPsil dosing ops and site startup costs.

Outflow: 315,000

Month 8

Activities: Catalent final development month (method finalize); IND/GLP final tranche; assay wrap-up; salaries; TheraPsil operations; clinical ops site contracts.

Outflow: 250,000

Month 9

Activities: Catalent 6-month informal stability pulls and abbreviated development report; Catalent program completes with deliverables; Health Canada processes CTA/amendment; salaries; TheraPsil ongoing payments; regulatory wrap.

Outflow: 110,450

Appendix: Tactical Funds Usage Planning, Cont'd

Month 10

Activities: Site pharmacy approvals; IMP logistics (if any); DSMB readiness; final site readiness and monitoring set-up; salaries (post-Catalent increase to $50k); TheraPsil ongoing.

Outflow: 130,000

Month 11

Activities: IMP release to sites (if applicable); First Patient In (FPI); dosing support, integration sessions; on-site monitoring; salaries; TheraPsil payments for dosing weeks.

Outflow: 225,000

Month 12

Activities: Ongoing dosing & integration; capture short-term primary endpoints and safety data; data capture/cleaning; interim analysis prep; business development outreach with interim data; salaries; final TheraPsil tranche.

Outflow: 145,000

Full business plan available upon request

Summary

- Catalent non-cGMP base = $310,175 spread months 0–9
- GMP API 180 g = $486,000 — paid 100% Month 0
- TheraPsil trial total = CAD 500,000 → USD 370,000, staged months 1–11; TheraPsil is NF
- IND/GLP = $600,000 staged months 6–8 (supporting Health Canada/bridging)
- Regulatory/IP/program mgmt/QA/DEA = $300,000 staged months 0–9
- Business development = $100,000 months 9–12
- Contingency reserve = $74,275 (held, not spent)
- Salaries = $35,000/mo months 0–8; $50,000/mo months 9–12
- Catalent program duration = 9 months (months 0–8) with final deliverables and report in month

Appendix: Competitors Progress & Positioning

Compass

Advanced clinical programs (Phase 2/3). Strong regulatory pathway focus (COMP360), significant capital and commercialization planning.

GH Research

Deep clinical data in depression indications, strong execution in later-stage trails and regulatory engagement.

atai

Broad platform strategy; multiple asset partners and discovery programs; high vision across modalities but execution varies by subsidiary.

Cybin

Innovative formulation/delivery focus and diverse preclinical/early clinical portfolio; vision is strong, execution still scaling.

MindMed

Operational capability for clinical delivery and therapeutic clinics; development pipeline more service/clinic-oriented than broad drug pipelines.

field trip

Early in the pharmaceutical lifecycle; value narrative centered on care delivery infrastructure, brand, and future molecule development rather than late-stage clinical assets.

Awakn

Small, single-asset developers - focused programs, earlier stage with limited scale and capital.

Appendix: Acronym Definitions

- **5-HT2A:** subtype of serotonin receptor that is part of the G protein-coupled receptor family. It is primarily activated by serotonin (5-HT)
- **BED: Binge** Eating Disorder is the largest and fastest-growing eating disorder population.
- **CDMO:** Contract Development and Manufacturing Organization, is a company that provides comprehensive services in the development and manufacturing of pharmaceutical products.
- **CNS:** Central Nervous System, which is a crucial part of the nervous system in vertebrates. Two main structures are brain and spinal cord.
- **CRO:** Contract Research Organization, is a company that provides outsourced research services to the pharmaceutical, biotechnology, and medical device industries.
- **FDA:** Food and Drug Administration, is a federal agency of the United States Department of Health and Human Services.
- **GMP:** Good Manufacturing Practice, refers to a set of guidelines and regulations established to ensure that products are consistently produced and controlled according to quality standards.
- **IND**: Investigational New Drug application in the pharmaceutical industry. It is a request submitted to the U.S. Food and Drug Administration (FDA) seeking approval to begin clinical trials of a new drug or biologic in humans.
- **IP:** Intellectual Property refers to the legal rights and protections granted to individuals and organizations for their creations and inventions. Intellectual property encompasses a wide range of assets that are a result of intellectual effort.
- **PD:** Pharmacodynamics focuses on the biological effects of the drug on the body and how it produces therapeutic effects
- **PK:** Pharmacokinetics refers to the study of how a drug is absorbed, distributed, metabolized, and excreted by the body over time.