FRONTAGE

Corporate Overview

We Turn Services into Solutions

History of Strong Growth

Over 18 Years of Excellence

2001 — Company Founded By Dr. Song Li

2006 — Opened Shanghai, China Office

2008 — Acquired Phase I Clinical Operations Secaucus, NJ

2012 — Expanded & Relocated HQ to Exton, PA

2014 — Strategic Investment Agreement With Tigermed

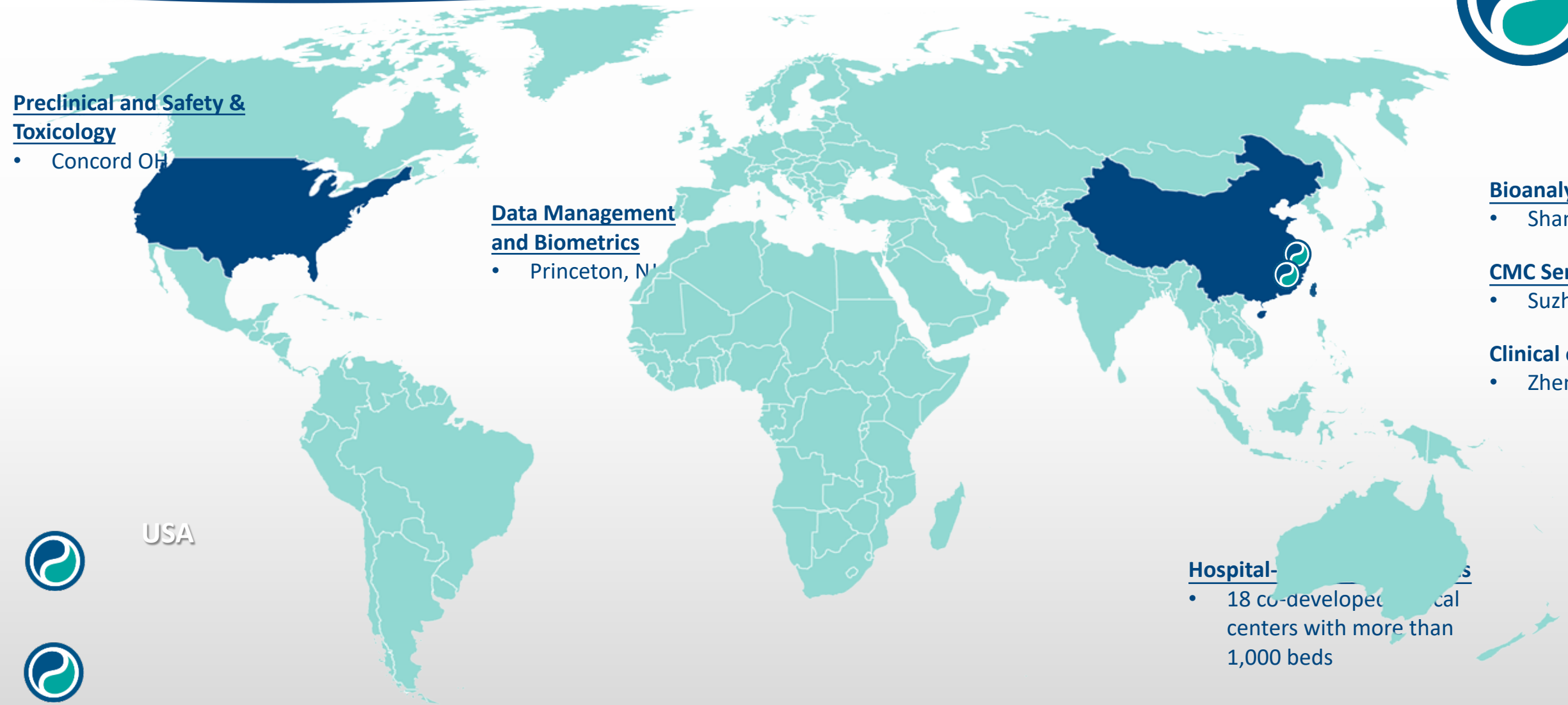
2015 — Acquired Data Management and Biostats Services

2016 — Sister CDMO, Frontida Acquired in Philadelphia, PA

2018 — Concord Biosciences Preclinical and Agrochemical Acquired in Ohio

650 Employees in U.S. and China

Two Countries, One System



Preclinical and Safety & Toxicology
- Concord OH

Data Management and Biometrics
- Princeton, N

Bioanalytical Se
- Shanghai, S

CMC Services
- Suzhou

Clinical operati
- Zhengzhou

USA

Hospital-
- 18 co-developed cal centers with more than 1,000 beds

Our Strengths

Our People

Strong Scientific and Management Expertise

Highly educated and experienced employee base

Our Services

Broad and Integrated Product Development Services

Drug product development services spanning from late Discovery through Clinical Development, supporting regulatory filings and post-marketing

Our Facilities

State of the Art Equipment and Facilities

Over $40 MM invested in instruments, equipment and facilities enabling end-to-end drug product development R&D support

Our Quality Systems

Our Quality System; "Two Countries, One System"

Highly successful inspection record by US FDA, CFDA, WHO of regulated work in both the U.S. and China, effectively operating as a bridge between the U.S. and China

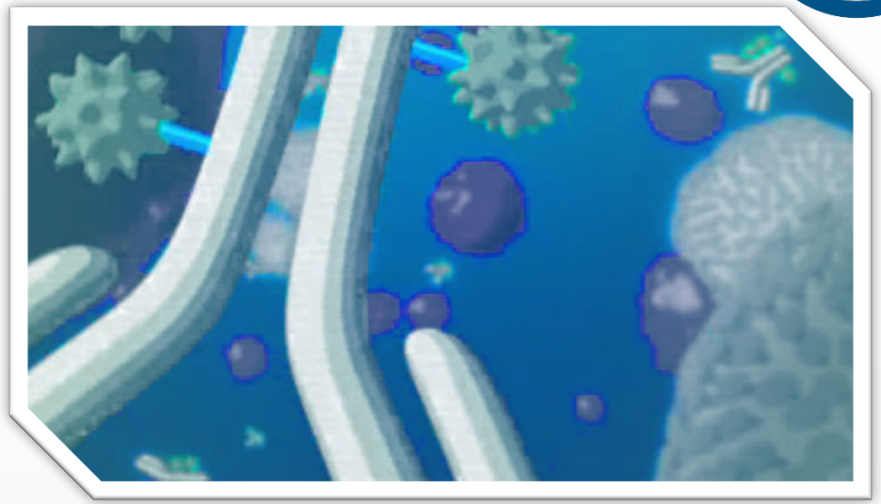
Our Purpose, Vision and Values

Our Purpose

To improve quality of life

Our Vision

To be the preferred partner of life science leaders in product development



Our Values

Quality

We are committed to excellence in the results we achieve, and how we achieve them.

Integrity

We believe in honesty, reliability and accountability in our words and behavior.

Innovation

We employ new scientific approaches, technologies and processes to provide innovative solutions to challenging problems.

Caring

We care for our patients, customers, employees, stakeholders, communities and environment.

Integrated, Analytical and Scientifically-Driven Research and Development Services

Our Services in Each Stage of The Drug Discovery and Development Process

Drug Discovery	Pre-Clinical Development	Clinical Trials (Phases I-III)	Post Approval (Phase IV)
DMPK			
■ PK screening and characterization ■ PK/PD studies	■ *In vitro* and *in vivo* ADME ■ Metabolite ID / Profiling in difference species	■ Mass balance studies ■ Metabolites in safety testing ■ Drug-drug interaction studies	
Safety and Toxicology			
■ Immunosafety testing ■ Pharmacology assessment	■ Regulatory / general toxicity studies ■ Pathology, ophthalmology and Cardiovascular safety ■ First-in-human IND application support ■ Non-GLP and GLP toxicology studies	■ Chronic toxicity studies ■ Investigative toxicology ■ Carcinogenicity studies ■ Toxicology support for additional indications	
Bioanalytical			

■ Immunogenicity assessments
  ■ Cell based
  ■ Non-cell based
  ■ Neutralizing antibodies
■ Biomarkers
	■ Method development, validation and sample analysis
	  ■ Quantification of chemical drugs and biologics
	  ■ Non-GLP research based assays
	  ■ Liquid chromatography and mass spectrometry
	  ■ Ligand binding		

Chemistry, Manufacturing and Controls ("CMC")			
■ Lead compound qualification ■ Analytical testing	■ Formulation development Analytical testing ■ *In vitro* release and product testing ■ GLP toxicology batch manufacturing ■ Stability testing and storage	■ CTM/GMP manufacturing ■ Stability testing and storage ■ Extractability studies ■ Impurity identification	■ Commercial product release and stability testing
		Clinical Services	
		■ Clinical Study Design and Execution ■ Data Management and Biometrics ■ Medical Writing and Regulatory Support	

Highly experienced and professional management team

Highly Experienced Senior Management Team

Song Li, Ph.D.
Founder and Honorary Chairman, Frontage Holdings Corp. and CEO, Frontage Laboratories, Inc.

Dr. Li, Founder and CEO of Frontage Laboratories, Inc., has been awarded the Healthcare CEO award from Philadelphia Alliance for Capital and Technologies, Ernst & Young Entrepreneur of the Year Award. Dr. Li received his Ph.D. in Analytical Chemistry from McGill University in Canada

Zhihe Li, Ph.D., M.D.
CEO, Frontage Holdings Corp. and SVP, Frontage Laboratories, Inc.

Dr. Li is responsible for corporate strategies and global operations. He has over 20 years experience in the pharmaceutical industry and he received his Ph.D. from McGill University in Canada

Johnson & Johnson · valentis

Hugh M. Davis, Ph.D.
Chief Business Officer

Dr. Davis oversees all Business Development, Sales, Marketing and Strategic Partnerships. He has over 30 years of experience in the pharmaceutical industry and over 75 publications in refereed journals. He received his Ph.D. in Biochemistry from Villanova University

gsk · janssen

Joe (Yifeng) Gao
Chief Financial Officer (CFO)

Mr. Gao has 18 years of experience in finance and accounting supporting large corporations and small start-ups. His expertise includes corporate and operational financing, investor relations, acquisition management, capital markets, accounting, FP&A, and process improvement

Deloitte.

Tianyi Zhang, Ph.D., MBA
Executive Vice President, Head of China Business

Dr. Zhang over 15 years experience in drug analysis; published over 60 papers and reports. He received his Ph.D. degree in analytical chemistry from the University of Florida

PPD · MPI RESEARCH · Tandem LABS

Zhongping Lin, Ph.D.
Executive Vice President, Bioanalytical and Biologics Services

Dr. Lin has over 20 years of industry experience and has contributed to more than 40 publications and 9 book chapters. He received his Ph.D. in analytical chemistry from Dalhousie University.

AstraZeneca · AVANTIX

Dongmei Wang, Ph.D.
Executive Vice President, Global CMC Services

Dr. Wang has more than 20 years of pharmaceutical and biotech industrial experience and earned a Ph.D. in Chemistry from Iowa State University

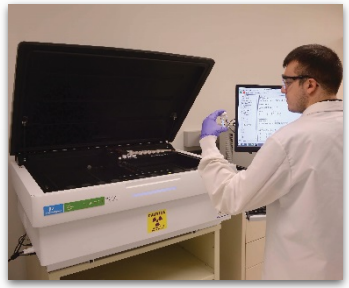
THERICS · NovaDel Pharma Inc

Abdul Mutlib, Ph.D.
Executive Vice President, DMPK Services

Dr. Mutlib has over 28 years experience in pharmaceutical industry and over 50 publications in refereed journals. He received his Ph.D. in pharmaceutical chemistry from the University of Sydney in Australia

Wyeth Pharmaceuticals · DUPONT · Pfizer

United States Based Services



DMPK

- Rapid PK; In Vitro ADME
- Mass Balance
- Early Discovery to Late Development
- Metabolite Identification

SAFETY & TOXICOLOGY

- IND Enabling Studies
- Regulatory/general toxicity
- Safety pharmacology
- Full clinical and anatomic pathology, ophthalmology, ECG
- Post IND Service
- GLP Analytical Support

BIOANALYTICAL

- Biomarker Services
- Preclinical and Clinical Support
- Global Bioanalytical Services (65+ LC-MS/MS)
- Biologics Assay (Antibody Drug, ADC, Oligonucleotide)

CMC

- Analytical Services
- Formulation Development
- CTM Manufacturing
- GMP commercial stability
- Small molecules & Biologics
- IND & ANDA

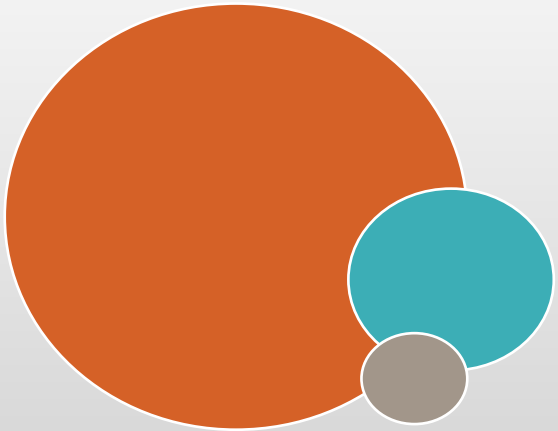
CLINICAL

- Clinical Centers in US and China
- Phase I: SAD, MAD, BA, BE, Food Effect, DDI
- First to File Packages

BIOMETRICS

- CDISC-Compliant Datasets
- Biostats and SAS Programming
- Preclinical-Phase IV Development Support
- EDC & Data Management

China Based Services



Bioanalytical

- >50,000 sqf facilities located in Shanghai and Suzhou
- >150 Scientists; >70% have advanced degrees
- 30 LC/MS/MS with WatsonLIMS system
- US-China method cross transfer and validation abilities
- Support sample analysis for small molecules drugs and biologics

CMC/CTM

- >30,000 sqf facilities located in Suzhou
- >70 Scientists; >70% have advanced degrees
- Analytical method dev/val; stability and release testing
- Formulation development – various dosage forms
- Clinical trial material manufacturing

Clinical

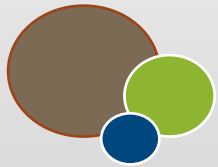
- 18 Hospital-based early phase clinical centers in different regions
- >1,000 beds capacity
- >70 Clinical research Scientists
- Various therapeutic area experience
- DM/BioStat fully support functions
- Late phase clinical trial capabilities

State of the Art Equipment and Facilities

- **~100 LC-MS/MS** available for small and large molecule analysis
- Frontage was first to offer ultra-sensitive biomarker quantification with **Quanterix Simoa™**
- **Magpix Luminex** and **Ella Protein Simple** instrument platforms enables efficient screening of multiple biomarkers and isolation of a single critical biomarker candidate from a large pool of analytes
- **Culex System** promotes reduction of animal usage by serial bleeding of mice for pharmacokinetic studies
- **Maurice System** enables separation of charge/size variants in a stable pH gradient established by ampholytes in a capillary, and detection by whole column imaging with UV absorbance or native fluorescence
- **160-bed phase I clinic** located less than 7 miles from NYC, with access to a large diverse population of volunteers
- **18 co-developed clinical centers** with more than 1,000 beds

Unparalleled Compliance and Quality Record

- Our facilities and processes undergo routine audits and inspections from sponsors and regulatory authorities, including US EPA, US FDA, Health Canada, WHO
- Operates under strict adherence to ICH and US FDA GMP guidelines
- Compliant with internal standard operating procedures (SOP), Good Laboratory Practice (GLP) and world health authority guidance.
- CLIA Certified Laboratory
- AAALAC Accredited
- OLAW Assurance



Frontage US FDA Inspections (2000-2018)

Service Area (Location)	# Inspections	Inspection Year/s
BIO-US/ CMC-US (HQ, Exton, PA)	12/2	2004-2018
CMC-US (Exton, PA)	8	2006-2017
FCS-US (Hackensack, NJ)	7	2009-2014
FCS-US (Secaucus, NJ)	3	2016-2018
Drug Safety and Metabolism (DSM)-US (Concord, OH)	13	2000-2018
BIO-CH/ CMC-CH (CH HQ, Shanghai, China)	2/1	2013
CRC-CH (Zhengzhou, China)	1	2013
CRC-CH (Changchun, China)	1	2015
CMC-CH (Suzhou, China)	1	2016
Total US FDA Inspections (US AND CHINA)	**51**	**2000-2018**

Other Regulatory Inspections (2000-2018)

Agency	Service Area (Location)	# of Inspection/s	Inspection Year/s
ANVISA (Brazil)	BIO-US (HQ Exton, PA)	1	2018
DEA	BIO-DMPK-US (HQ Exton, PA)	1	2014
DEA	Drug Safety and Metabolism (DSM) (Concord, OH)	3	2016-2018
DEA	CMC-US (Exton, PA)	1	2016
DEA	FCS (Secaucus, NJ)	2	2015-2016
EPA	BIO-DMPK-US (HQ Exton, PA)	1	2015
EPA	Drug Safety and Metabolism (DSM) (Concord, OH)	6	2000-2018
Health Canada	CMC-US (Exton, PA)	1	2016
WHO	BIO-CH (Shanghai, China)	1	2013
WHO	CRO-CH (Beijing, China)	1	2013
WHO	CRC-CH (Zhengzhou, China)	1	2013

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FRONTAGE

YOUR DRUG DEVELOPMENT PARTNER

DMPK

Safety & Toxicology

Bioanalytical

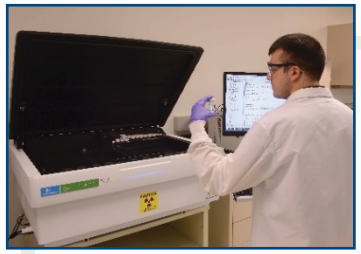
CMC

Clinical

Biometrics

Drug Discovery and Development Service Overview

DMPK



Technical Expertise

- 25+ employees; cross-trained
- Avg experience 10-15 years
- Ability to provide scientific input to designs and interpretation of data to influence decision-making process

Automation for Increased Precision and Efficiency

- Advanced automation instrumentation for in vivo ADME, in vitro ADME
- Our current liquid handling platforms include Tecan and Tomtec
- Automation for in vivo PK studies minimizes animal usage/handling and accelerates study timelines while maintaining high-quality data.

Rigorous Quality

- Standard operating procedures (SOPs)
- Watson LIMS for sample inventory management
- Temperature controls and ultra-low temperature freezers help preserve data quality and specimen integrity
- All studies are conducted in accordance FDA and EPA GLP, IACUC protocols, Nuclear Regulatory Commission and the Pennsylvania Bureau of Radiation Protection Regulations for radioactive materials.

Safety & Toxicology

Specialized Facilities

- Compliance with GLP regulations
- AAALAC accreditation
- DEA licensed facility, regular inspections with all major regulatory bodies, excellent regulatory track record and reputation
- 43 animal rooms
- Provantis (wireless data collection, 21 CFR 11 compliant)
- Microchip animal identification

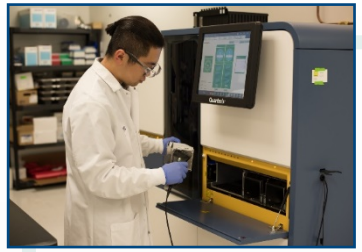
Scientific Expertise

- Integrated program management oversight
- Board-Certified Toxicologists, Veterinarians and Pathologists
- Experienced study directors and detail-oriented technicians
- Rigorous quality management process embedded throughout the entire organization and process

Speed and Flexibility

- Rapid project initiation
- Fast turnaround time
- Integrated chemistry and biology services to accelerate your program
- Full support labs (clinical pathology, histology, pharmacy) under one roof

Bioanalytical Services



17 Years of Strong Scientific Expertise

- 70% of staff have advanced degrees
- Senior scientists average 10 – 15 years in complex drug development
- Many come from leading pharmaceutical companies
- Small molecule, biologics and biomarkers expertise

Outstanding Quality and Compliance

- Outstanding audit history with more than 30 inspections by the FDA, WHO and Health Canada.
- Compliant with internal standard operating procedures (SOP), Good Laboratory Practice (GLP) and world health authority guidance.
- CLIA Certified Laboratory

Wide Range of Technology Platforms

- High Capacity with over 65 LC/MS/MS
- **200,000 -500,000+** Samples (Annual Capacity)
- Multiple Immunoassay platforms
- Ultra-sensitive detection capabilities (femtogram/mL)
- Single and multiplex analysis in various disease categories

CMC (Chemistry, Manufacturing and Control) Services

Capacity & Expertise

- Over 1,500 Methods
  Method Dev/Method Validation/Method Transfer
- 220 Clients -- 220 Compounds -- >450 GMP Batches

Outstanding Quality and Compliance

- Our facilities and processes undergo routine audits and inspections from sponsors and regulatory authorities. including US EPA, US FDA, Health Canada, WHO
- Operates under strict adherence to ICH and US FDA GMP guidelines
- Seven (7) FDA inspections in past 8 years: no 483 for lab operations
- Inspected by Health Canada & European Union Qualified Person (EUQP)

Designed to Provide Flexibility

- Facilities engineered to offer a variety of dosage forms
  - OSD, Topical, Sterile Solution & Lyo powder
- Ability to handle highly potent compounds and DEA-controlled substances

Clinical Services

Over 20 years of Early Stage Clinical Experience

- Experience in execution of comprehensive Phase I-IIa studies
- Experience in broad range of study types
- Expertise in wide variety of delivery systems

Purpose-Built Facility

- Modern 36,000 sq. ft. facility
- Multiple units with 160 beds
- Secure limited-access pharmacy
- Video monitoring and key card access
- Rees monitoring on freezers
- Back-up generator

Prime Geographic Location

- Less than 7 miles from NYC
- Access to over 29.5 million potential volunteers
- Proximity to extensive mass transit and 2 major airports
- Located near some of the leading medical facilities in the country
- 0.25 miles to local ER

Biometrics

Extensive Experience

- Biostatistics consultation and analyses by staff statisticians with more than 20 years of industry experience
- Expertise in generation of CDISC-compliant datasets and supporting documents
- Phase I-III and post-marketing study support

Broad Service Offerings

- Clinical development plans and study designs
- Medical writing including protocol, ICF, SAP, DMP, and CSR
- Full Data Management services
- Sample size estimations, randomization schedules and TLFs
- Pharmacokinetic consultation and analyses

Service Integration

- Stand alone biometric services or fully integrated with Phase I clinic
- Dedicated Project Manager assigned to each project
- Focus on communication

Thank You

Appendix

Our Strengths and Growth Strategies

Our Strengths

1. Well positioned in the world's two largest pharmaceutical markets
2. Proven ability to deliver value-add technical expertise
3. Effective quality management systems and strong track record of regulatory inspections
4. Diverse and growing customer base with increasing customer retention
5. Strong track record of efficiency and flexibility
6. Highly experienced and professional management team

Our Growth Strategies

1. Expand Capacities to Capture Market Growth
2. Expand Services to Provide Integrated Solutions
3. Capitalize on the Chinese Market Growth
4. Attract and Retain Top Talent
5. Maintain, Deepen, and Expand Customer Base