

# COMPANY OVERVIEW

iFyber is a preclinical contract research organization that offers unique expertise at the interface of chemistry, biology, and materials science. Our complementary skill set and collaborative approach help our clients efficiently advance innovative technologies and address untapped markets. We specialize in providing creative yet practical solutions to applied problems using rigorous scientific practices. With customized models and state-of-the-art instrumentation, we deliver high-quality service and reliable, actionable results.

# TEAM

iFyber has brought together a multidisciplinary group of scientists, trained in microbiology, biomedical engineering, analytical chemistry, molecular biology, and synthetic chemistry, with commercial and regulatory team members to meet the diverse service needs of our clients. At least 50% of our team holds an advanced degree, demonstrating our commitment to having highly trained and skilled scientists involved in every aspect and step of the project—from initial conversations and proposals to data analysis and reporting. This cross-functional approach and the use of application-specific assays produce relevant data that can guide the design, verification, and manufacturing processes of technologies across a wide range of industries.

# FACILITIES

iFyber's facilities are located at the South Hill Business and Technology Park in Ithaca, NY, within the scenic central NY Finger Lakes region. We have recently expanded to over 5,000 square feet of dedicated office and laboratory space, which houses both standard lab equipment and specialized instrumentation for chemical, diagnostic, microbiology, and mammalian cell culture work. iFyber also has access to state-of-the-art equipment and facilities on the Cornell University campus, and our scientists are active users of Cornell core facilities.

# THINK OF iFYBER AS:

- An extension of your R&D team
- Consultants with laboratories to support ideas with data
- An academic lab, solving R&D problems on corporate or start-up timelines
- A testing lab that develops new methods tailored to clients' products and services

# SERVICES

iFyber specializes in developing new or modified custom methods that better fit a client's application and technology. With our wide range of service offerings, iFyber has a proven track record of supporting companies in the wound care, medical device, regenerative medicine, and biochemical industries by rapidly solving complex problems and keeping programs on track.

## ANTIMICROBIAL SUSCEPTIBILITY TESTING

- Dynamic contact assay
- Time-kill assay
- Zone of inhibition assay
- Time course of antimicrobial activity
- MIC assay
- MTT assay
- Bacterial selective plating
- Bacterial attachment

## ANTI-BIOFILM EFFICACY TESTING

- MBEC in vitro assay
- Microwell biofilm susceptibility & eradication assays
- Porcine dermal explant *ex vivo* model
- Artificial sputum in vitro model of cystic fibrosis

## MATERIAL DESIGN & CHARACTERIZATION

- Biomaterial design
- Technology landscaping
- Composition analysis
- Material equivalence
- Thermalgravimetric analysis & differential scanning calorimetry (TGA/DSC)
- Surface area & particle size
- Porosity, pore size, & interconnectivity
- Mechanical properties compressive strength, elastic modulus
- Molecular weight (GPC, MALDI)
- Resorption rate
- Functional testing

### **BIOASSAYS & POTENCY TESTING**

- In vitro biocompatibility testing
- Cell attachment assays
- Cell viability & growth assays
- Cytotoxicity assays
- Cvtokine analysis
- Morphological measurements of neuronal growth
- Tissue barrier function testing
- Protease activity
- Protein analysis
- Histology and IHC
- Flow Cytometry/Fluorescence-activated cell sorting (FACS)

## HISTOLOGY & IMAGING

- Light microscopy
- Wet mount preparation
- Tissue fixation, processing, embedding, sectioning, & mounting
- Routine hematoxylin & eosin (H&E) staining & special staining (e.g., periodic acid-Schiff [PAS], Masson's trichrome, Nissl staining)
- Simple staining for bacteria (e.g., methylene blue, safranin, crystal violet)
- Differential staining (e.g., Gram staining, GMS staining)
- Immunohistochemistry (IHC)
- In situ hybridization (ISH)
- LIVE/DEAD staining
- Confocal microscopy & 3D reconstruction
- Image processing & morphology measurements

### **BIOMARKER ANALYSIS**

- ELISA
- qPCR/LAMP
- Cytokines (e.g., interleukins [ILs] & TNF-α)
- Growth factors (e.g., platelet-derived growth factor [PDGF])
- Matrix metalloproteinases (MMPs)
- Tissue inhibitors of these
- Tissue inhibitors of these metalloproteinases (TIMPs)
- MMP/TIMPs ratios

### 510(K) SUPPORT

- Performance test method development, selection, & execution
- Identification of worst-case scenario test articles
- Q-submissions
- Pre-submission meetings
- Submission support
- FDA additional information requests

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