



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

- AATCC Test Method 100
- Time-kill assay
- Zone of inhibition assay
- MIC & MBC assays
- Attachment assays
- Microbe diversity studies (sequencing)
- Microbial culturing (bacteria, yeast, mold)

### BIOFILM TESTING

- MBEC *in vitro* assay
- Microwell biofilm susceptibility & eradication assays
- Porcine dermal explant *ex vivo* model
- Viable human skin models of infection

### MATERIAL DESIGN & CHARACTERIZATION

- Chemical synthesis
- Biomaterial design
- Composition analysis (NMR, vibrational spectroscopic, mass spectrometry)
- Thermalgravimetric analysis & differential scanning calorimetry (TGA/DSC)
- Surface area & particle size
- Mechanical properties – compressive strength, elastic modulus, viscoelastic properties of soft biomaterials
- Molecular weight (GPC, LC/MS)
- Functional testing

### BIOASSAYS & MOLECULAR TESTING

- Bioassay development
- Protein characterization (Octet LC/MS, size-exclusion chromatography)
- Cytokine and growth factor analysis
- Matrix metalloproteinases & inhibitors (MMPs/TIMPs)
- Flow Cytometry/Fluorescence-activated cell sorting (FACS)
- ELISA
- Nerve regeneration assay (*ex vivo* tissue culture)
- Molecular: qPCR/LAMP, RNA arrays, traditional & next-gen sequencing, clinical trial support

### CELL & TISSUE CULTURE

- Biocompatibility Assays (e.g., ISO 10993)
- Human viable skin models (wound healing, infection, growth factor/cytokine analysis)
- Skin irritation using 3D tissue models
- Endotoxin/pyrogenicity assays
- Cell/Biomaterial interactions (stem cells, immune cells, osteoblasts, endothelial cells, PBMCs, M1/M2 polarization)
- Custom Assays
- Decellularization & Demineralization
- Recellularization assays (cell infiltration, biomaterial degradation)
- 2D/3D cell and tissue model development
- Hemostasis testing
- Co-culture studies (mammalian-microbial and cell-virus co-cultures)

### VIROLOGY SERVICES

- Titering assays (TCID50)
- Infectivity testing
- Viral clearance testing (Spike and Recovery)
- Custom virus culturing

### HISTOLOGY & IMAGING

- Bright-field and fluorescence microscopy
- Confocal microscopy
- Tissue fixation, processing, embedding, sectioning, & mounting
- Histological staining (standard H&E, Gram, etc. staining, immunohistochemistry)
- LIVE/DEAD staining and imaging
- Electron microscopy (TEM, STEM, SEM-EDX)

### CUSTOM R&D / SERVICES (REPRESENTATIVE)

- Technology landscaping
- Fractional FTE-type R&D (ask us about research PODs)
- Textile processing and characterization
- R&D for litigation/privileged studies
- Clinical trial support (laboratory)
- Metabolomics and Bioinformatics

