

MBEC Assay® Testing

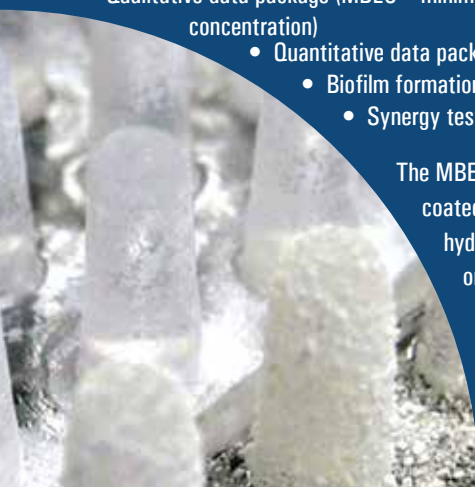
We don't just sell it, we use it!

Innovotech's MBEC Assay® device allows for rapid testing of antimicrobials and biofilm formation inhibitors for anti-biofilm activity. To date, the MBEC Assay® methods and device has been featured in 100s of peer-reviewed publications. The MBEC Assay® method is approved by ASTM (E2799-17).

MBEC Assay® testing helps generate data packages such as:

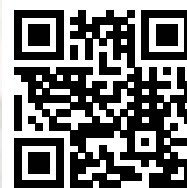
- Qualitative data package (MBEC – minimum biofilm eradication concentration)
 - Quantitative data package (Log₁₀ reduction)
 - Biofilm formation inhibition testing
 - Synergy testing

The MBEC Assay® lid can be coated with titanium dioxide, hydroxyapatite, cellulose, or other custom coatings to simulate clinical or environmental settings.



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a new direction in fighting infection

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BEST Assay™ Testing

The Biofilm Eradication Surface Test (BEST Assay™) system allows for the screening of antimicrobial surfaces and coatings in a market-ready format using a matrix-driven system. The assay has been used with coated medical devices for successful 510k submissions to the FDA.

Can be used to evaluate many types of medical devices:

- Can use the actual device (finished product)
- Allows for preconditioning with blood, urine, saliva or saline
- Dynamic (rather than static) environment
- Flexible contact time with fluids (pre-challenge rinse)
- Log reduction (planktonic and/or biofilm)
- Encrustation testing
- Antimicrobial testing (coated or incorporated antimicrobials)

Guaranteed Price Quotes
Guaranteed Confidentiality
A Reputation You Can Trust
Guaranteed Timelines
Assays are Reproducible,
Reliable, Rugged and
Cost Effective

Contract Research Services

"Those of us in the medical business must think very hard if we are to outmaneuver this very old and very successful bacterial life form, and perhaps learn to speak their language and even enlist them in our never-ending fight against disease"
J.W. Costerton

Innovotech is an Industrial Pioneer in Biofilm Microbiology Research

Innovotech's matrix-driven experimental systems allow for rapid high-throughput screening and antimicrobial R&D for a variety of systems and applications. The MBEC Assay[®] and BEST Assay[™] systems can be used for investigating disinfectants, antimicrobial coatings, and many other applications covering the full range from development through regulatory submission to post-market analysis.

Innovotech is accredited by CALA to ISO/IEC 17025:2017 (testing accreditation number A4146 for Enumerating Bacteria – Solids and Enumerating Bacteria – Liquid).

In Vitro Antimicrobial Testing

Innovotech has an experienced research team that will work with you to develop experimental protocols to achieve your specific needs.

Innovotech's Contract Research services cover the following applications and more:

- Implanted device antimicrobial testing
- Antibiotic and biocide efficacy screening
- Agricultural diseases and food safety
- Dental biofilms
- Waterline and pipeline fouling
- Regulatory submission packages
- Consulting services
- Third party validations

Our assays and services include, but are not limited to, the following:

- Biofilm antimicrobial testing
- Planktonic antimicrobial testing
- Testing for inhibition of biofilm formation
- Testing of aerobic and anaerobic microorganisms
- Anti-spore testing
- Imaging: Scanning Electron Microscopy (SEM)



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BEST^{plus} Assay[™] System

The BEST^{plus} Assay[™] system has been developed recently to bring *in vitro* catheter testing one step closer to truly mimicking a clinical setting.

- Handles catheters with different Fr sizes and for different clinical applications
- Tests both intraluminal and extraluminal surfaces simultaneously
- Allows for the intraluminal and extraluminal surfaces to be pre-conditioned and challenged with different media to more precisely simulate the clinical setting
- Saves time, and uses less product for testing

Cytotoxicity Testing

- Determine the cytotoxic effects of leachables from a device/material using mouse fibroblast cell line L929 or human cell line HeLa

Our testing follows ISO 10993-5 standard.

Bacteriophage Testing

Utilising the MBEC Assay[®] platform, host bacteria and biofilms can be exposed to phages to test the phages for:

- Biofilm formation inhibition
- Killing of preformed biofilms
- Bacteriophage adhesion to target surfaces and coatings

Our current model organisms are the host *Escherichia coli* ATCC 13706 and phage Phi x174.

Other host/phage pairs are available on request.

Analytical Capabilities

Innovotech's team of researchers with training in chemical and biomedical engineering are happy to assist you with the following analytical services:

- Water content measurement (Karl Fischer)
 - ▶ Direct injection
 - ▶ Thermal extraction
- Atomic absorption spectroscopy (AAS)
- UV-Vis spectroscopy
- Stability
 - ▶ Thermal, Storage, Hydrolysis
- X-ray diffraction (XRD)
 - ▶ Sample ID
 - ▶ Quantitative phase analysis (QPA)
 - ▶ Crystallite size
- Scanning electron microscopy (SEM) with energy-dispersive x-ray spectroscopy
 - ▶ Particle size/shape/distribution
 - ▶ Elemental analysis
- Mass spectrometry

