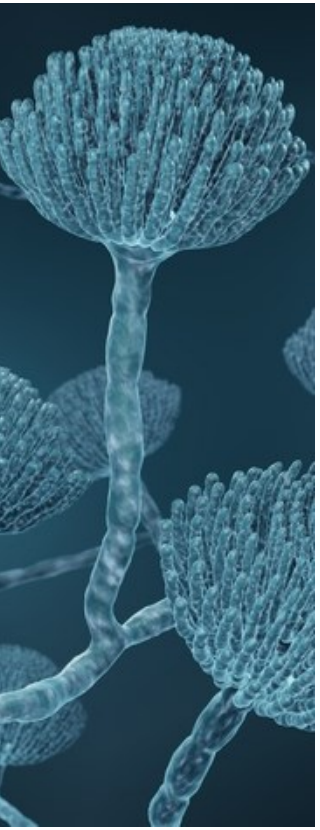
Streamline microbial QC testing using MicroQuant™ by ATCC



Nilay Chakraborty, PhD, MBA
BioNexus Foundation Principal Scientist, Cryobiology, ATCC

October 24, 2024

Credible Leads to Incredible™

Speaker information

Nilay Chakraborty, Ph.D.
BioNexus Foundation Principal Scientist
Cryobiology
ATCC

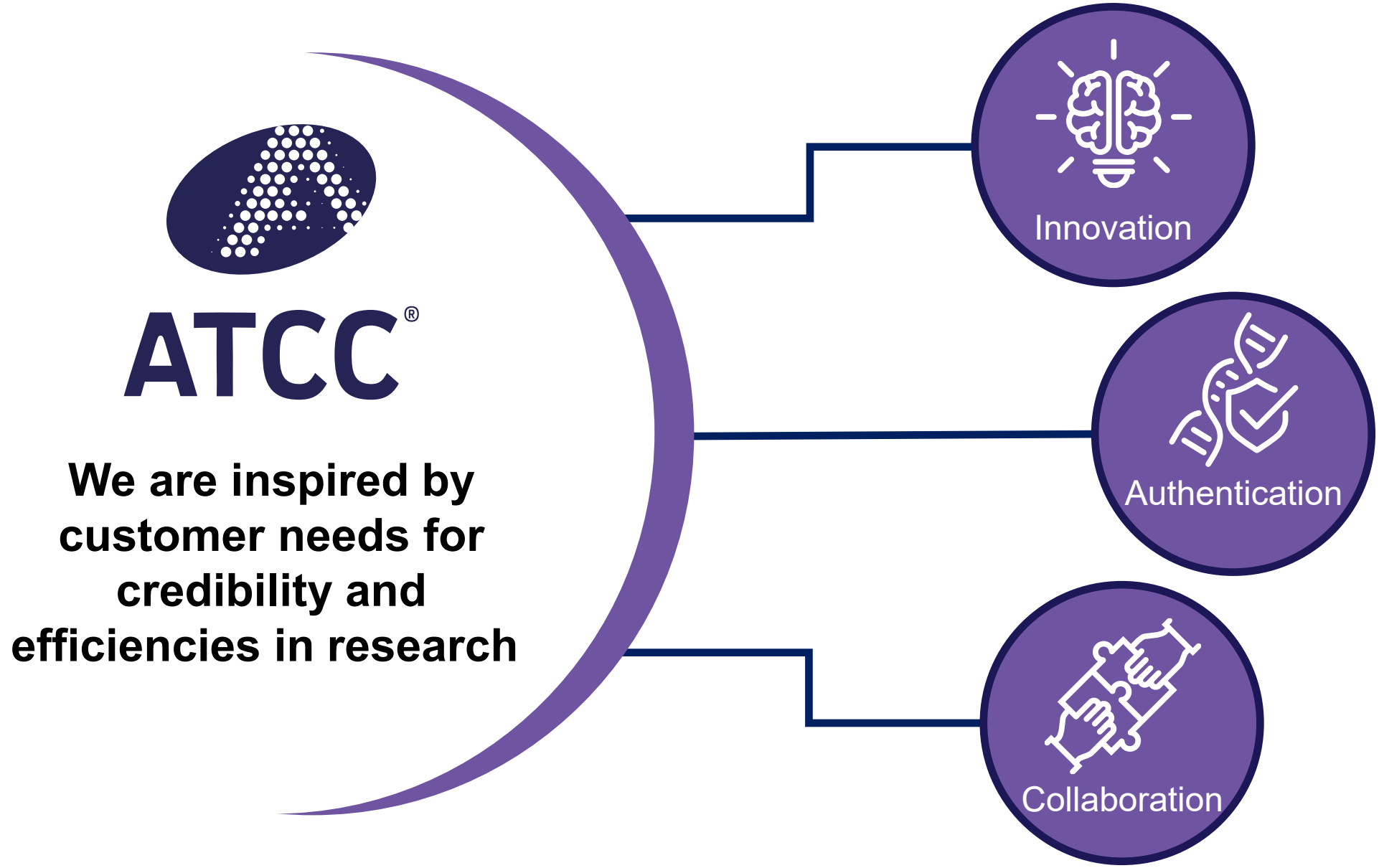
Dr. Chakraborty specializes in biopreservation and innovative product development. With an engineering background and degrees from Indian Institute of Engineering Science and Technology and University of North Carolina, he pioneered biopreservation and cell-based technologies that focuses on innovative delivery formats. During his tenure at the Center for Engineering in Medicine at Harvard Medical School, Massachusetts General Hospital, and Shriners Burns Hospital, he continued research in biopreservation, delivery formats, and cell-based technologies. Previously a tenured Associate Professor at the University of Michigan, Dearborn, he now leads ATCC's efforts in preservation sciences and advanced strategic biological product development.

About ATCC®

- Founded in 1925, ATCC® is a non-profit organization with HQ in Manassas, VA, and an R&D and Services center in Gaithersburg, MD
- World's premier biological materials resource and standards development organization
  - 5,000 cell lines
  - 80,000 microorganisms
  - Genomic & synthetic nucleic acids
  - Media/reagents

- ATCC® collaborates with and supports the scientific community with industry-standard biological products and innovative solutions
- Growing portfolio of products and services
- Sales and distribution in 150 countries, 20 international distributors
- Talented team of 600+ employees, over one-third with advanced degrees

Enabling scientific progress for nearly100 years

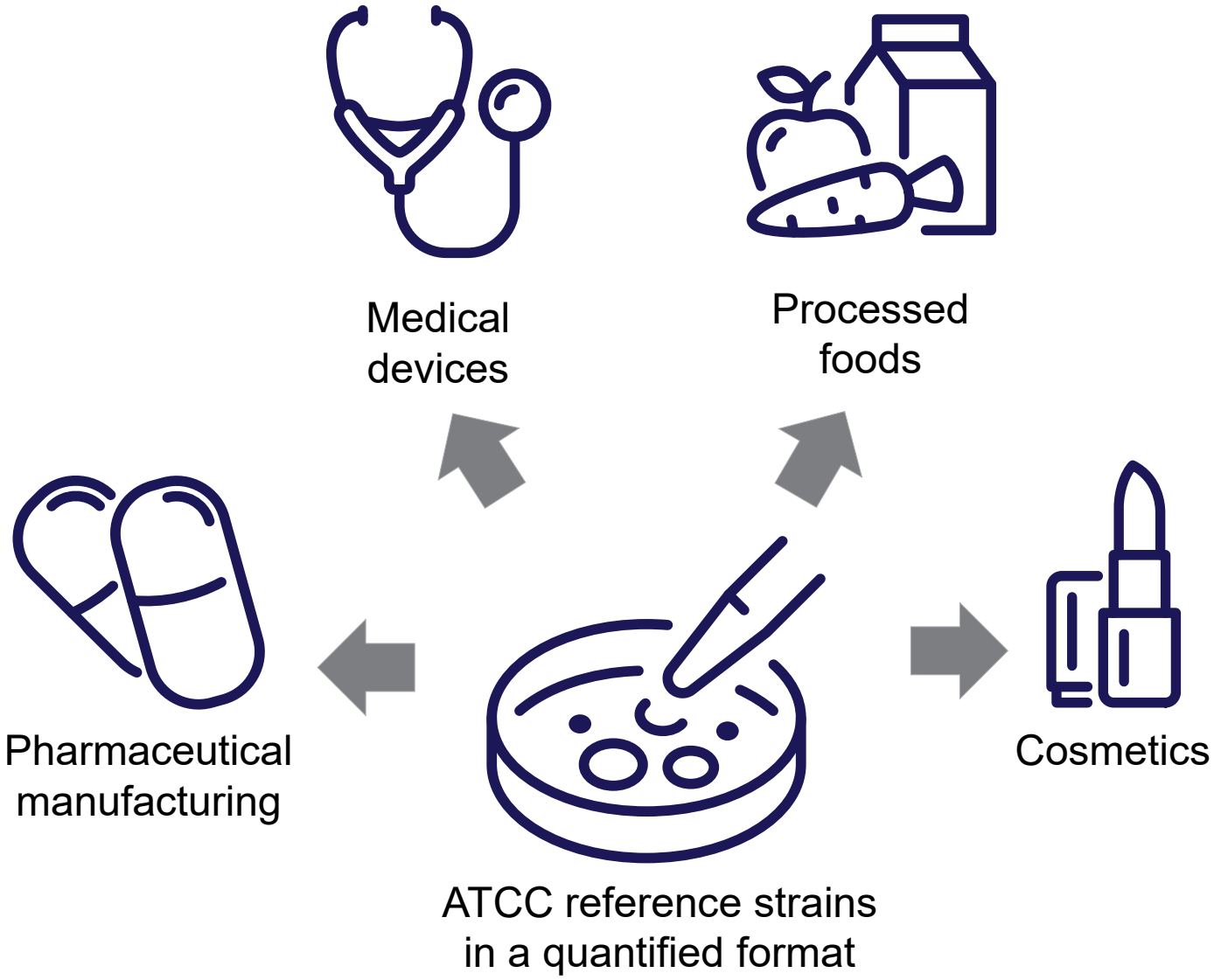


Innovative products for life science research

Comprehensive collection of advanced cell models and microbial reference materials that support biologics production

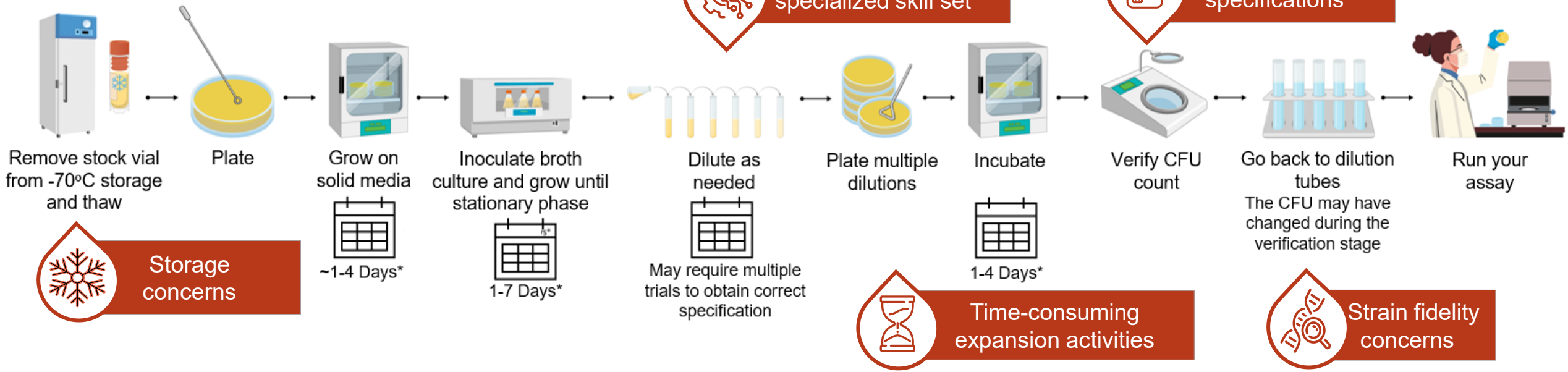
- Bioproduction cell lines and cell lines for enhanced virus production
- Analytical reference materials for residual host cell DNA testing
- Viral reference materials for evaluating the dose and potency of gene therapy products
- Purified polysaccharides and infectious disease strains for vaccine development
- Microbial quality control strains specified in standards and guidelines by organizations and regulatory agencies (USP, EP, ISO, FDA, CLSI, USDA, ASTM, AOAC, WHO)

Microbial QC testing applications span several industries



Challenges when using microbial reference strains

The traditional microbe culture workflow



Storage concerns

Dependency on specialized skill set

Meeting required specifications

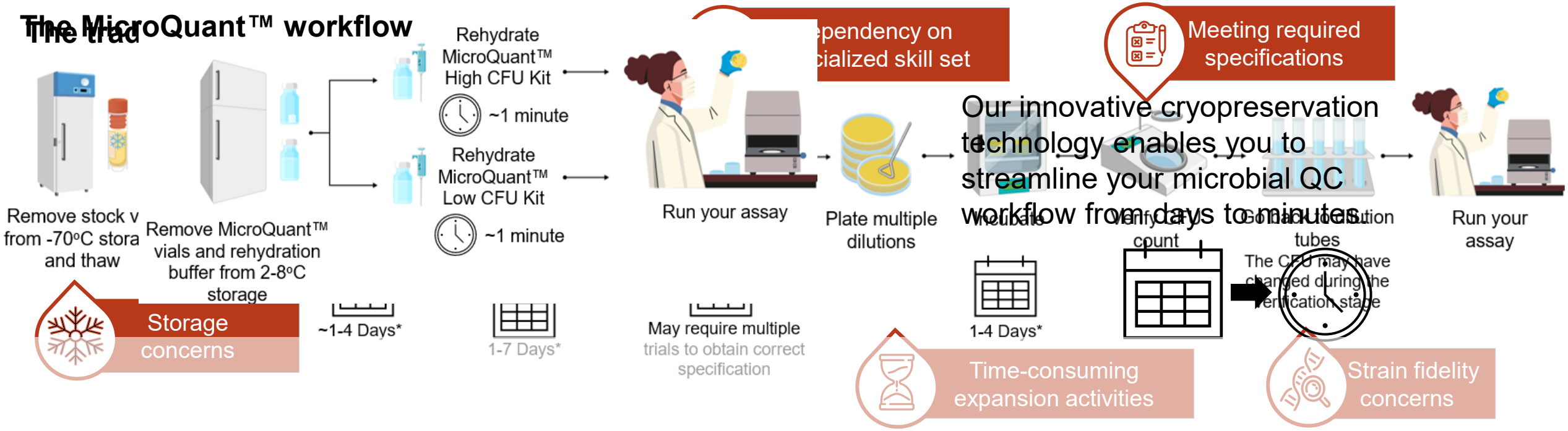
Time-consuming expansion activities

Strain fidelity concerns

*Different species require varying incubation times

MicroQuant™ by ATCC®

Simplified workflow using MicroQuant™



*Different species require varying incubation times

Meeting the challenge through cryobiology

ATCC developed an innovative preservation technique that delivers:

- A stable pelleted format that uniformly and rapidly rehydrates
- Precise quantitation of biological materials
- Convenient storage in refrigeration

Introducing MicroQuant™ by ATCC®

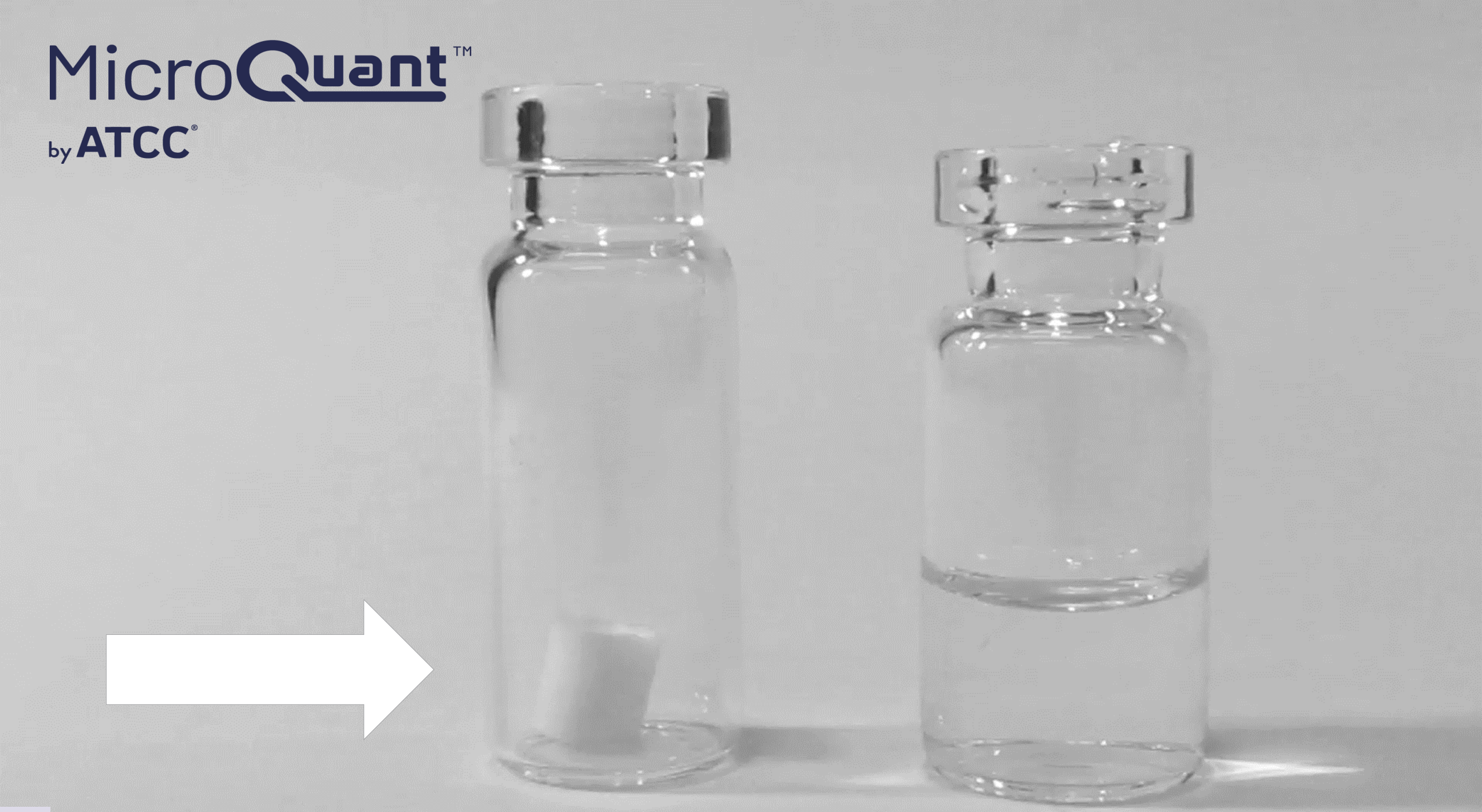
Precision in every pellet, trust in every test

A ready-to-use solution to help you streamline microbial QC testing

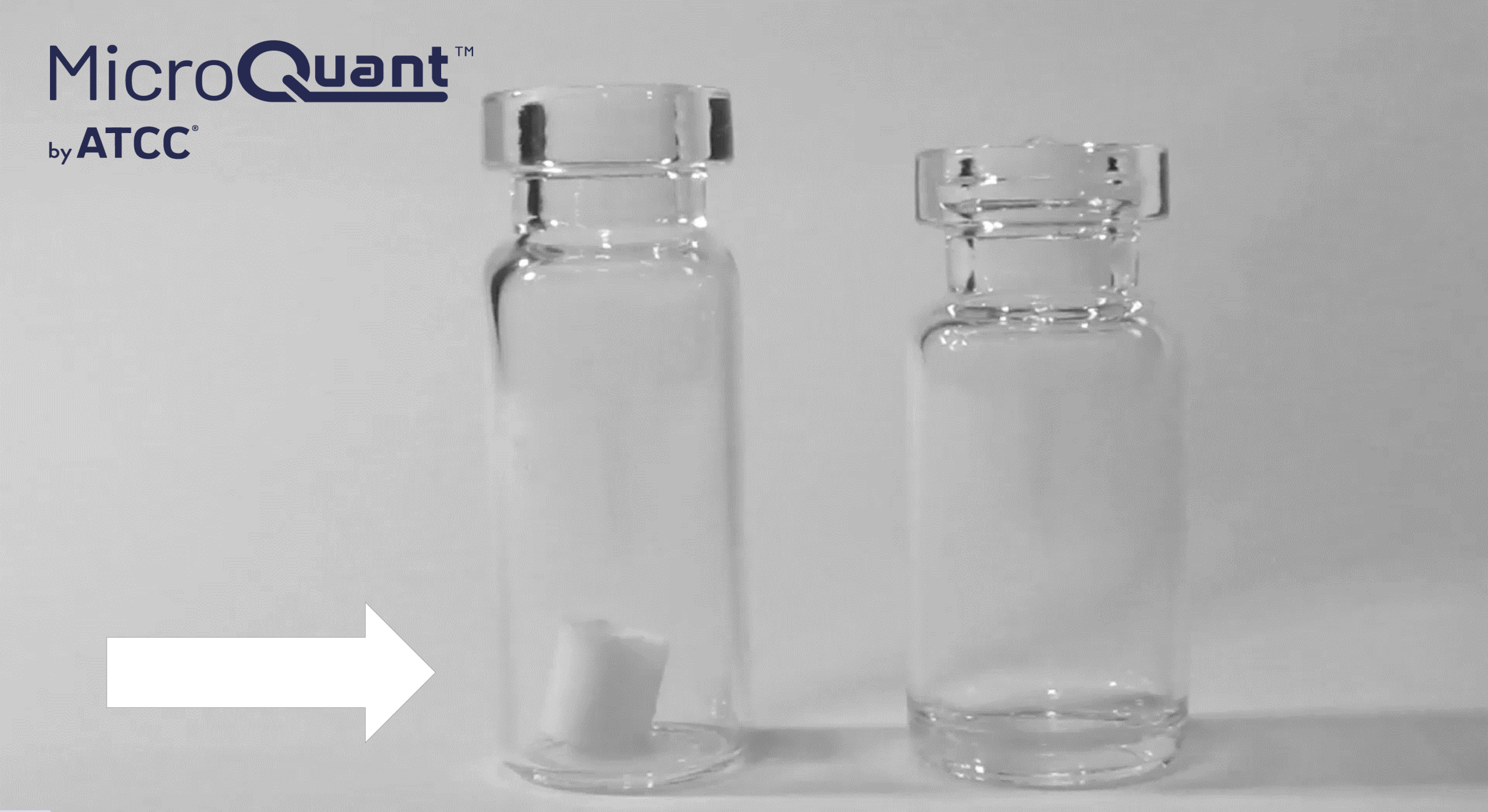
- Precisely quantitated in high-titer and low-titer pelleted formats
- Single-use format using an innovative, proprietary preservation technology
- Rapid, uniform rehydration in less than a minute
- Easy to store and ready to use anytime—no need to thaw
- Original ATCC materials manufactured under ISO 17034

ATCC®

MicroQuant™
by ATCC®



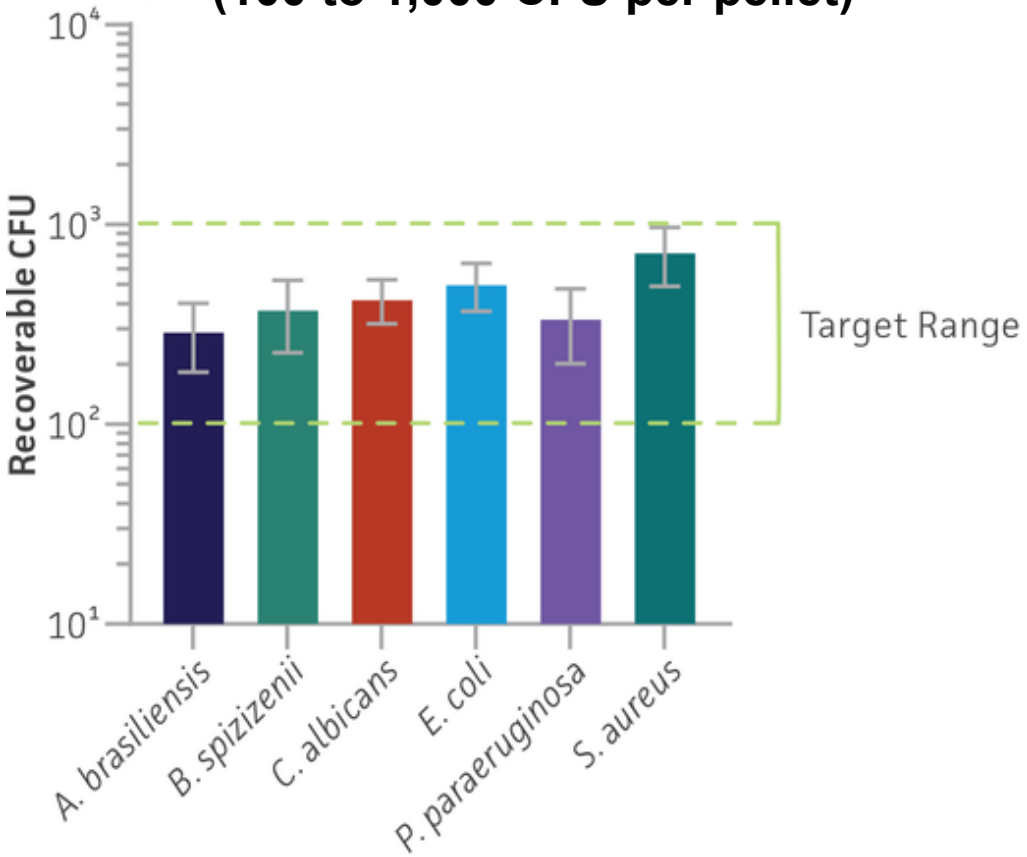
MicroQuant™
by ATCC®



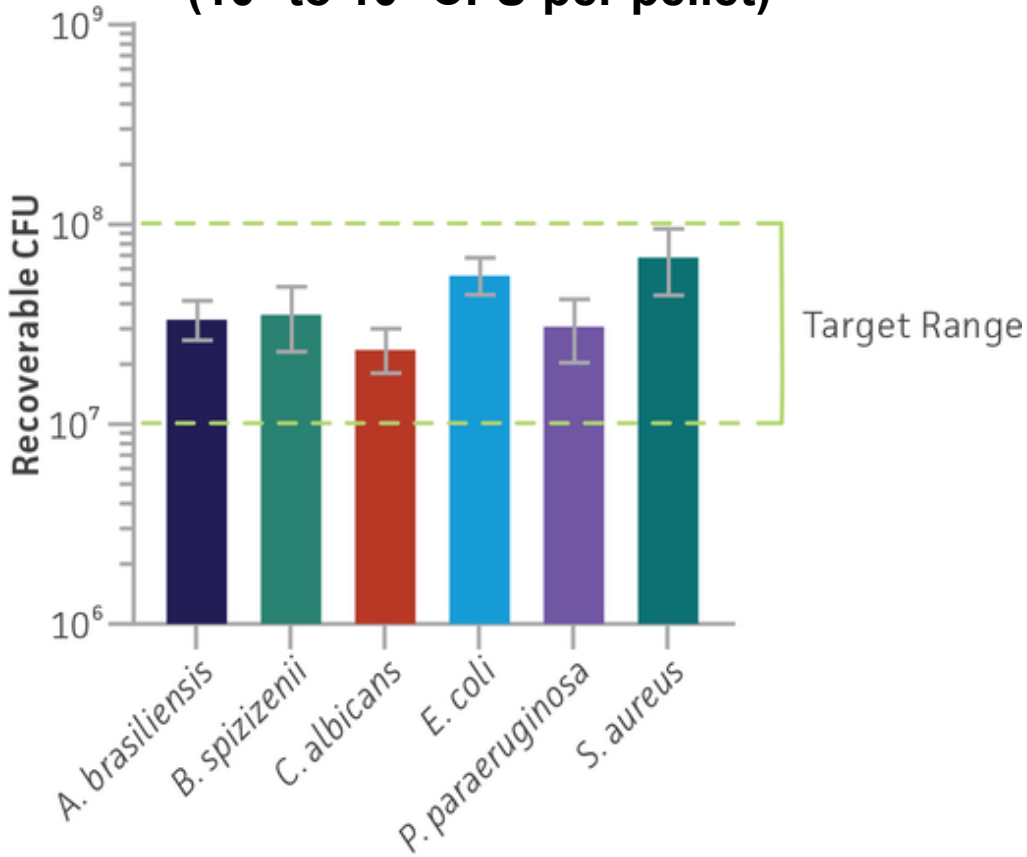
Save time and eliminate process complexities

MicroQuant™ is provided as a single-use quantitated pellet that enables fast assay set up and minimizes handling.

Low CFU Items
(100 to 1,000 CFU per pellet)

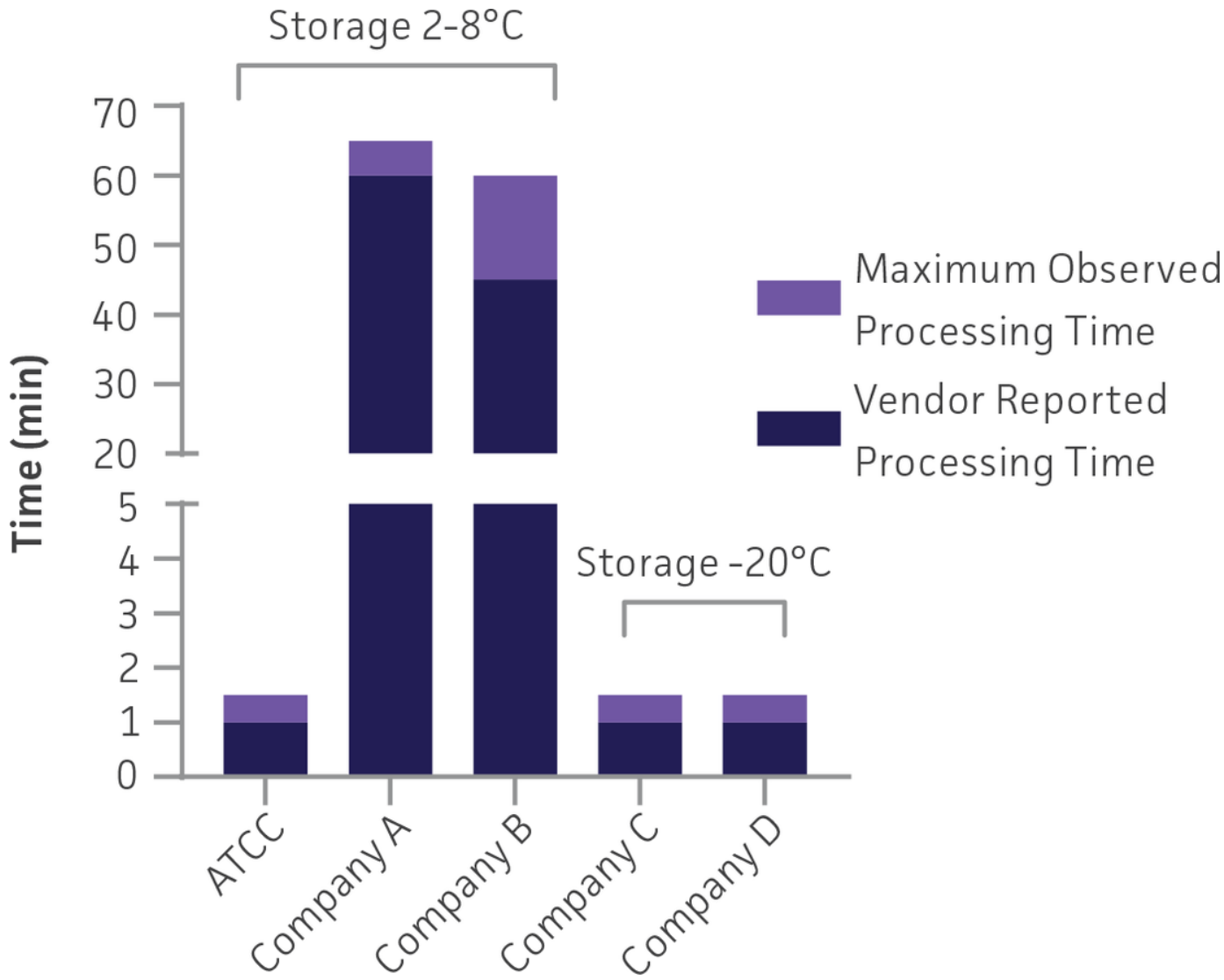


High CFU Items
(10^7 to 10^8 CFU per pellet)



Maximize your resources

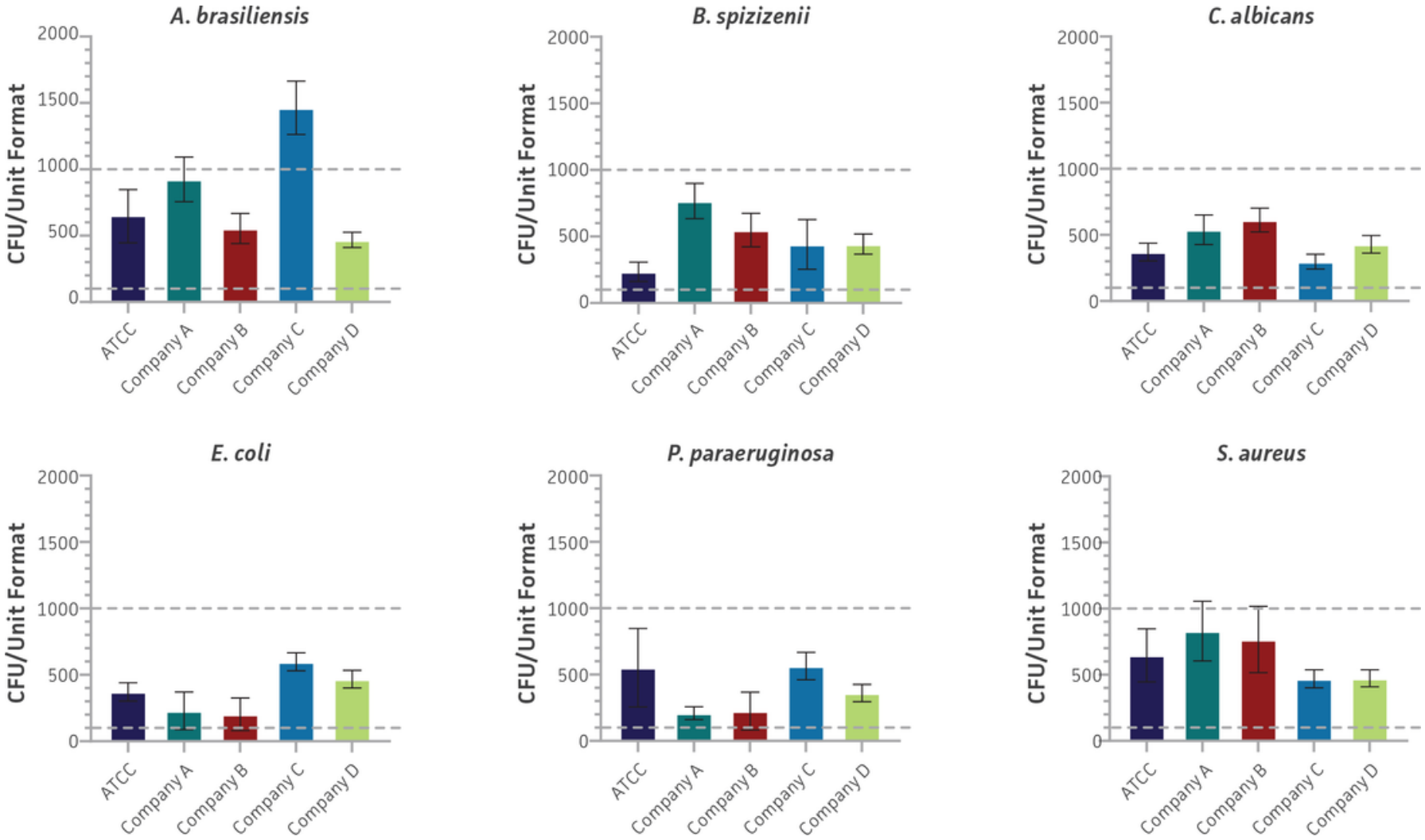
MicroQuant™ is stable at 2-8°C, making it convenient to store and ready to use anytime



No need to thaw!

Rely on consistent, precise quantitation

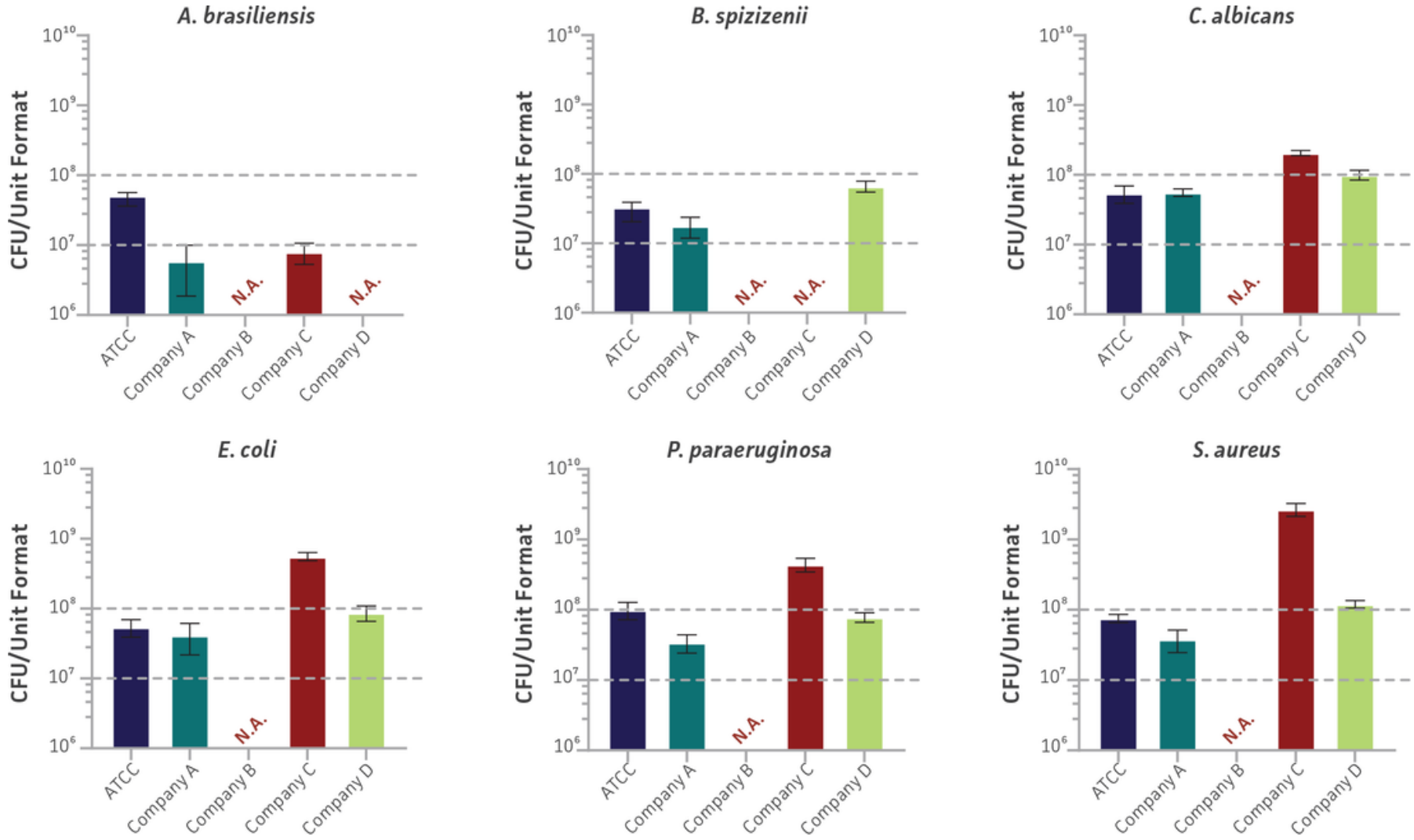
MicroQuant™ - Precise and accurate low CFU pellets for bioburden testing



"Low CFU" means 100 to 1,000 CFU/pellet

Rely on consistent, precise quantitation

MicroQuant™ - Precise, high CFU pellets for testing under USP <51> guidelines



"High CFU" means 10^7 to 10^8 CFU/pellet

How MicroQuant™ compares to similar products

Features	MicroQuant™	Company A	Company B	Company C	Company D
Processing time ~1 minute	✓			✓	✓
2-8°C refrigeration storage	✓	✓	✓		
Manufactured under ISO 17034	✓	✓	✓	✓	✓
Includes all strains for USP <51> (High CFU format)	✓	✓*		✓*	✓*
Includes all strains for USP <61> (Low CFU format)	✓	✓	✓	✓	✓
Product kit includes rehydration buffer	✓	✓	✓	✓	
Sourced from ATCC	✓	✓	✓		

*Some strains were not available for purchase at the time of testing

Explore the MicroQuant™ portfolio

ATCC® No.	Description
10231-LQ-PACK™	MicroQuant™ *Candida albicans*, low CFU
10231-HQ-PACK™	MicroQuant™ *Candida albicans*, high CFU
9027-LQ-PACK™	MicroQuant™ *Pseudomonas paraeruginosa*, low CFU
9027-HQ-PACK™	MicroQuant™ *Pseudomonas paraeruginosa*, high CFU
6538-LQ-PACK™	MicroQuant™ *Staphylococcus aureus* subsp. *aureus*, low CFU
6538-HQ-PACK™	MicroQuant™ *Staphylococcus aureus* subsp. *aureus*, high CFU
16404-LQ-PACK™	MicroQuant™ *Aspergillus brasiliensis*, low CFU
16404-HQ-PACK™	MicroQuant™ *Aspergillus brasiliensis*, high CFU
8739-LQ-PACK™	MicroQuant™ *Escherichia coli*, low CFU
8739-HQ-PACK™	MicroQuant™ *Escherichia coli*, high CFU
6633-LQ-PACK™	MicroQuant™ *Bacillus spizizenii*, low CFU
6633-HQ-PACK™	MicroQuant™ *Bacillus spizizenii*, high CFU

Low CFU = 100 to 1,000 CFU/pellet

High CFU = 10^7 to 10^8 CFU/pellet

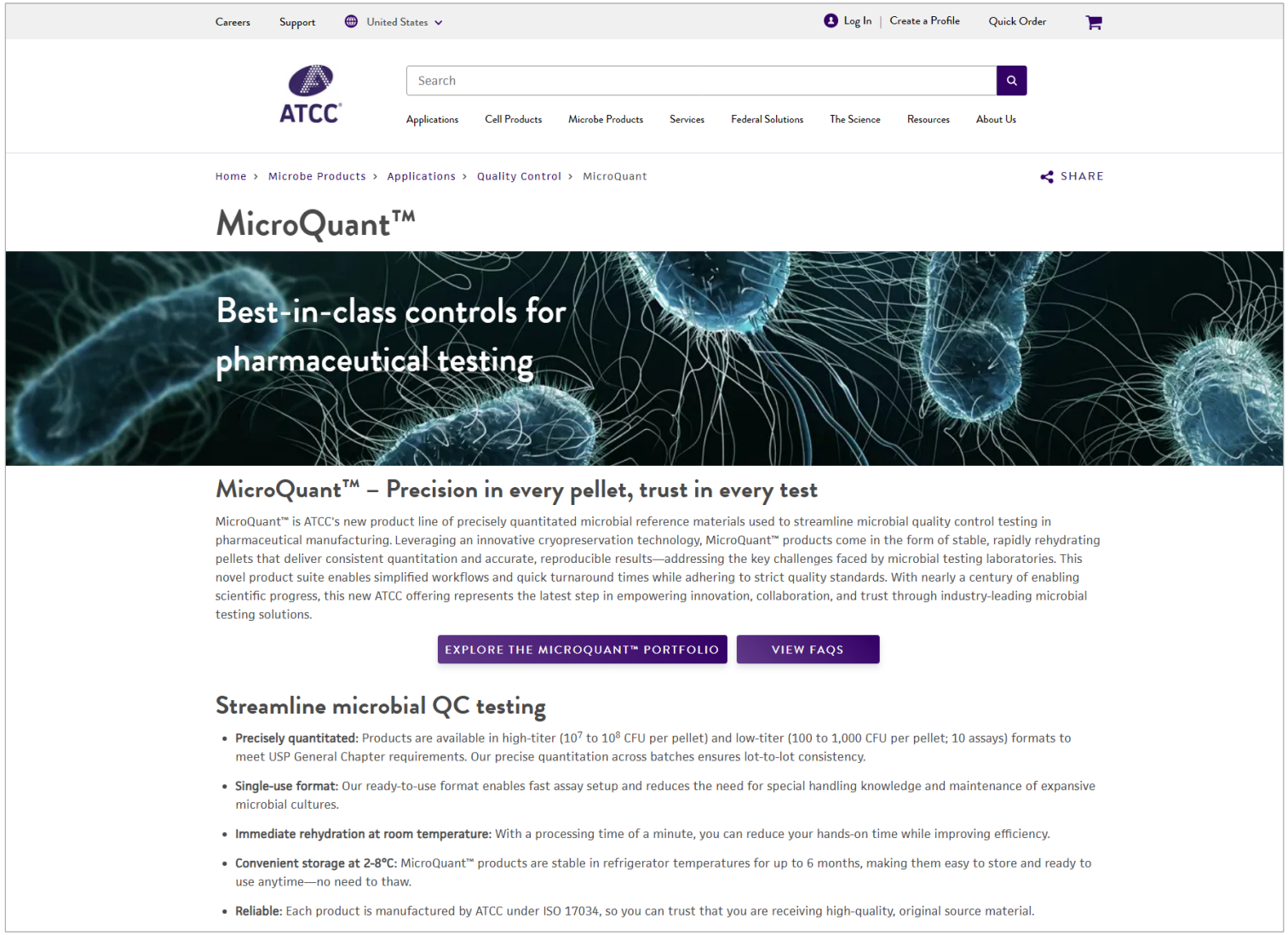
Learn more about MicroQuant™

ATCC.org/MicroQuant

Explore our portfolio

Get the application note

Read the blog post



Thank You

CREDIBLE
MODELS

INCREDIBLE
OUTCOMES

ATCC® | CREDIBLE LEADS TO INCREDIBLE

Let's connect

Nilay Chakraborty, PhD, MBA

BioNexus Principal Scientist

ATCC

nchakraborty@atcc.org