



# Supporting the Global Diagnostics Industry



Corporate Presentation – Fall, 2023

# Forward-Looking Statements

---

- This presentation contains forward-looking statements about trends and objectives.
- Risks and uncertainties related to such statements could cause actual outcomes to differ materially.
- Such risks include, among others, those related to operations, customers or markets, growth drivers, products or technologies, product pricing or costs, development projects, financial results, regulatory matters, and access to capital.
- Forward-looking statements represent Microbix's current judgement, and it disclaims any obligation to update them.

# Microbix Senior Management



## **Cameron L. Groome**

CEO, President, and Director

- Has served on the MBX BoD and AC since 2012, and was appointed CEO in 2017.
- 30+ years' experience in senior life sciences and finance roles.
- Successful leader, executive, director, and advisor for public and private companies.

## **Phil Casselli**

Senior. V.P. Business Devel.,  
Sales, and Marketing

- Manages MBX's relationship with over 100 makers of infectious disease diagnostics across multiple regions.
- He holds a Bachelor of Applied Science in Chemical Engineering and has more than 30 years' experience in the biotech and pharmaceutical industries.

## **Jim Currie, CPA**

Chief Financial Officer

- Joined MBX as CFO in 2016 after several CFO roles and a VP of Finance role at MDS SCIEX, a global leader in life science and analytical technologies.
- Jim holds a Bachelor of Commerce and holds a CPA and a CMA.

## **Mark Luscher, Ph.D.**

Senior Vice President,  
Scientific Affairs

- Responsible for scientific programs, he is a specialist in cell biology, immunovirology, and cytometry.
- He is an inventor on numerous patents and patent applications and oversees scientific and technological programs and initiatives related to MBX's products.

## **Ken Hughes, Ph.D.**

Chief Operating Officer

- Executive and biomedical scientist with 25 years of experience in biotech and pharma.
- Previously was CEO of iTP Biomedica, VP, Sci. & Reg. Affairs at Innovative Medicines Canada and Co-founder and Advisory Board member of PlantForm Corporation.

**>20 Other Skilled  
Directors & Managers,  
and total of >100 Staff**

- Including but not limited to: **Amer Alagic** – Director of R&D, **Steven Hagerman** – Senior Director of Operations, **Bo Hollas** – Director, QA & Compliance, **Damian Klimaszewski** – Director of Manufacturing, **Lucy Lin** – Director of QC, and **Pavel Zhelev** – Director, Product Management.

# Microbix Board of Directors



## **Martin Marino**

Board Chairman

- Mr. Marino has more than 30 years' experience in corporate legal roles and executive management functions, with emphasis on transaction-based corporate development.
- He also has considerable experience in conflict resolution and litigation management.

## **Dr. Peter M. Blecher**

Director

- Dr. Blecher worked as an Emergency Room physician for ~25 years.
- He is a Medical Director of NeuPath Centres for Pain & Spine, and is a credentialed pain practitioner with both the American and Canadian Academies of Pain Medicine.
- Dr. Blecher is a co-founder and CMO of both Entourage Health and FH Health.

## **Mark A. Cochran, Ph.D.**

HRGC Chair

- Dr. Cochran was Executive Director of Johns Hopkins Medicine.
- His experience spans all levels of the drug discovery and development value chain, including operational and executive roles in the healthcare, venture capital, pharmaceutical, and biotech industries.

## **Vaughn C. Embro-Pantalony**

AC Chair

- Mr. Embro-Pantalony has held multiple executive roles in life sciences, with responsibility for licensing, business development, and strategic planning.
- His experience includes executive roles with Bayer, Novopharm and Terra International. He is a Chartered Director and Audit Committee Certified through McMaster University.

## **Joe Renner**

Director

- Mr. Renner, Chairman of Zydus Pharmaceuticals, of Pennington, New Jersey, has more than 30 years' experience in the pharmaceutical industry.
- He has enjoyed a successful career leading businesses with many drug approvals in the United States.

## **Jennifer Stewart**

Director

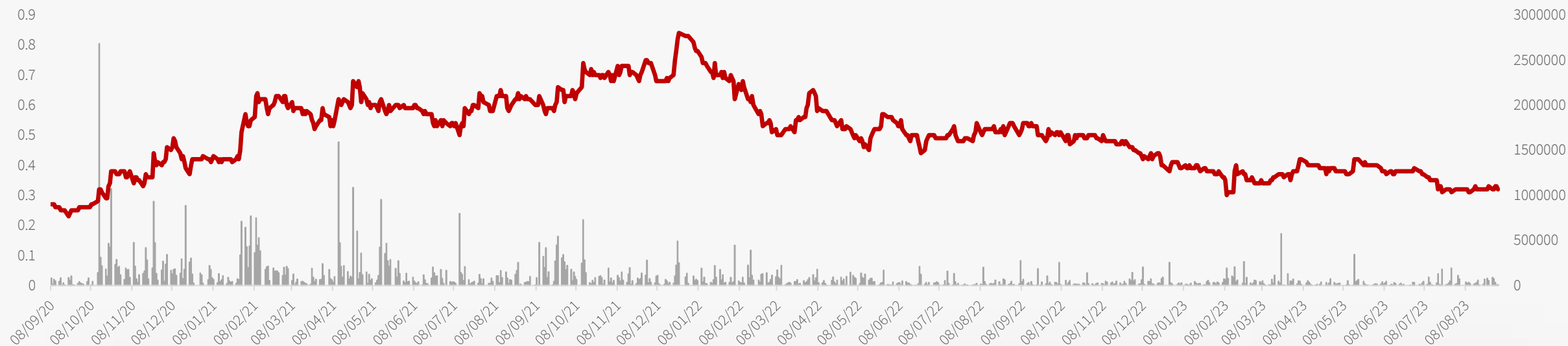
- Ms. Stewart is founder, President, and CEO of Syntax Strategic, a leading firm in the sector of advocacy and communication for the public and private sectors in Canada.
- She is a renowned expert in this field, and is actively involved with media, business, and the community.

## **Cameron Groome**

Director

- Mr. Groome is CEO and President of Microbix.

# Financials – Microbix Capital Structure



**TSX LISTED, SYMBOL: MBX • OTC QX LISTED, SYMBOL: MBXBF**

Current Price **\$0.33 (Sept 1)**

Shares Outstanding **137.3M\*\***  
(Basic)

(Fully Diluted) **181.3M\*\***

52 Week High **\$0.55**

52 Week Low **\$0.30**

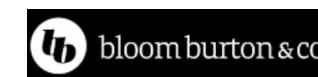
Market Capitalization **\$45.9M**

Avg. Daily Volume **~87.5K (3 mos.)**

Cash and Line of Credit **~\$15.4M\*\***

Longer Term Debt **\$4.9M BDC & Govt.\*\*  
\$4.0M debentures\***

## Analyst Coverage



Antonia Borovina



Bruce Krugel

\*Convertible at \$0.23

\*\* As of June 30, 2023

# Products & Customers Across the Diagnostic Testing Industry

- + Supporting over 100 diagnostics, clinical lab, and lab-proficiency related customers worldwide



Pre-Analytical  
Test Collection Devices (DxTM™)



Peri-Analytical  
Test Ingredients (Antigens)



Pan-Analytical QMS support  
Test Controls /  
Quality Assessment Products (QAPs™)

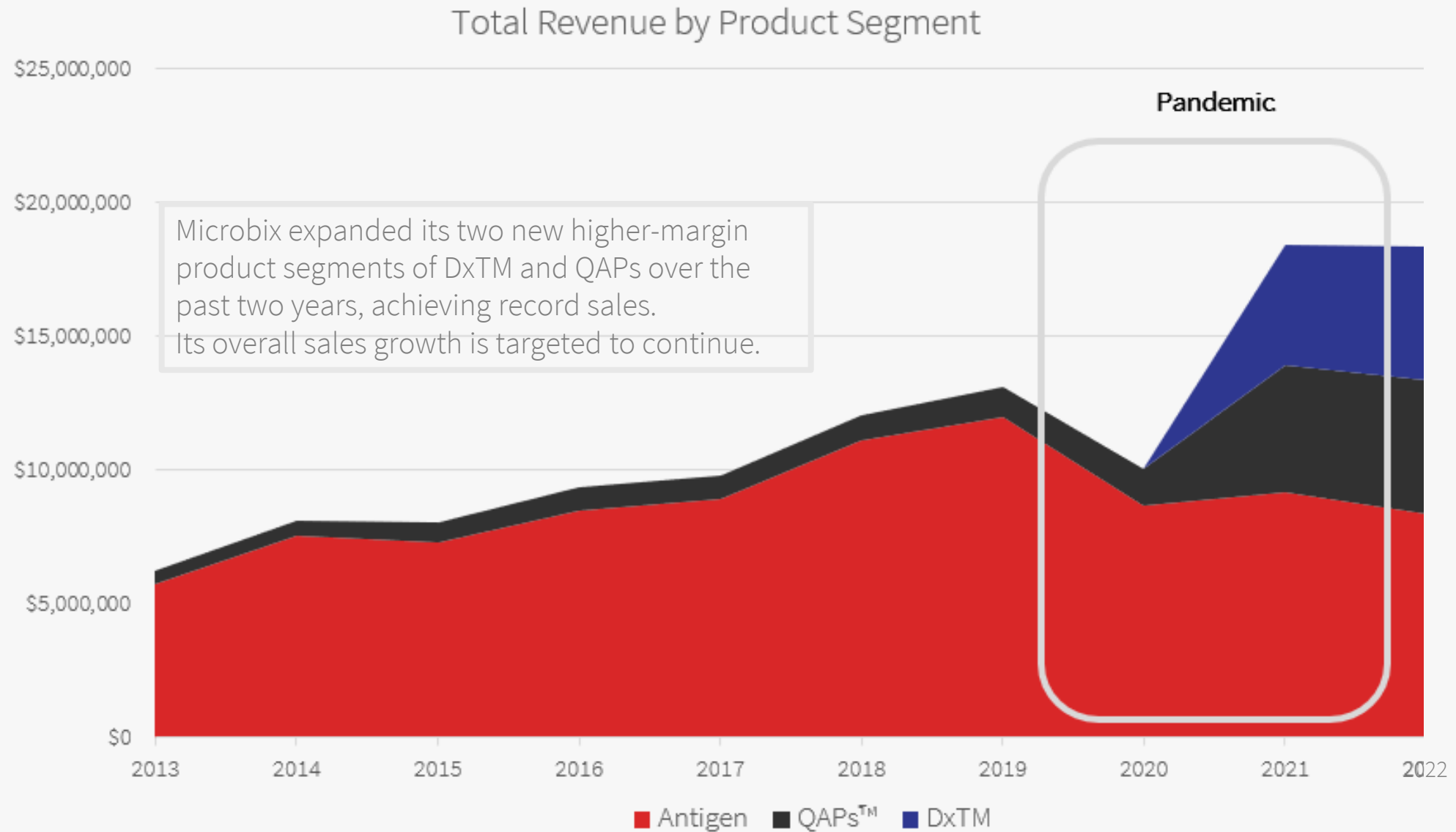


Leveraging Microbix's  
experience to service the  
many needs of the global  
diagnostics Industry.





# Microbix – Historical Revenue



# Microbix's Business Objectives – The Next Five Years

+ Attain Revenues of C\$ 100 million per year by way of:



**1. Cross-Selling** – Sell every product category across existing customer-base of >100 Dx industry firms .



**2. New Clients** – Identify & secure new Dx industry clients with over C\$ 1 million per year sales potential.



**3. New Product Classes** – Creating or acquiring new product lines, across both user and test categories.



**4. MDx & PoCTs** – Support growth of Molecular and point-of-care-testing via value-added product lines.



**5. Multiplexing** – Support industry's move into multi-analyte tests for “syndromic” diagnoses.



**6. Resistance/Variants** – Supporting tests for viral variants and for antimicrobial resistance.





# In-Vitro Diagnostics Market – Growth Opportunities for Microbix



## TEST COLLECTION DEVICES & REAGENTS

### DxTM & Others

- Pre-COVID, Canada imported an estimated C\$ 50 million per year of viral transport medium (VTM).
- Ontario comprises ~36% of Canada's population & Microbix remains its only validated & ISO-accredited domestic supplier.
- Microbix aims to be a significant supplier for Ontario's VTM needs.
- DxTM sales to Ontario totaled \$4.2 million in fiscal 2021 and \$4.7 million in fiscal 2022.

## TEST INGREDIENTS

### Antigens

- Antigens to make immunoassays – tests detecting antibodies to pathogens in blood samples.
- The global Immunoassay market was US\$ 28.5 billion in 2021.
- The antigen market is estimated at ~5% of assay selling price and native antigens, MBX's area of expertise, is estimated at ~10% of the antigens market.
- China is the major growth market for native antigens.

## TEST CONTROLS

### QAPs™

- QAPs mainly support accuracy of Molecular diagnostics (MDx), a US\$ 20 billion market in 2021.
- Test controls are estimated to comprise 5-10% of assay sales.
- Microbix is supporting an ever-increasing range of MDxs for its QAPs customers.
- MDx-based Point-of-Care-Tests (PoCTs) comprise the largest near-term opportunities for growing sales of QAPs.

# Test Collection Devices – DxTM™ (VTM) & Others

## + Sample Collection Devices (SCDs)



### Sales Potential for SCDs

Most lab-based PCR tests conducted require a vial of VTM, all of which was imported. SCD needs continue, driven by both respiratory viruses and the ongoing need to test for many other infectious organisms.

- Microbix can now produce at 100,000 vials/week and its pending full automation scales that 5-10x for support of multiple products.
- 2 orders from Ontario for \$8.9 million delivered across F2021 and F2022.

- Normal-time pricing for SCD/VTM is in the range of CDN \$3-5 per vial.
- Multiple SCD product opportunities to develop. DxTM sales to continue.



**Gross margins from DxTM production are favourable and other clients are now being pursued. SCDs therefore represent a large and sustainable value-creation opportunity.**

# Test Ingredients - Antigens

---

- + Grow, purify, and inactivate native bacteria and viruses for use as antigens for more than 100 leading international diagnostic companies . Microbix provides antigens on a large scale for major international diagnostic manufacturers, most often as a critical sole-source supplier.
- + ToRCH Antigens – Worldwide commercial leader
  - + Respiratory Antigens – Broad range of pathogens
  - + Childhood Disease Antigens – Unique offerings
  - + Sexually Transmitted Infections – Full range
  - + Tropical Disease Antigens – Insect-borne pathogens



# Test Ingredients - Antigens

## + Growth Outlook for this Business Area

In f2022, Antigens comprised <50% of sales, down from 90% historically due to growth of other segments. During the past 3 years, Antigen sales suffered as a result of reduced testing for non pandemic-related diseases.

In 2023, antigen sales have started to return to pre-pandemic levels and remain a growth area for Microbix.



**~50%**  
**of sales**

- ✓ As healthcare re-stabilizes, Antigen sales should benefit from greater global attention to respiratory and infectious disease testing as a result of the COVID-19 pandemic.
- ✓ In the more mature markets of the USA and Europe, growth can be derived from expanding relationships with established diagnostics clients.
- ✓ Further growth likely from adoption of public health-oriented immunoassays in new regions, such as Asia-Pacific nations.
- ✓ Microbix antigens are already being incorporated into dozens of tests seeking approval for use in China – for a large emerging-market opportunity.
- ✓ Improvements to processes, including the use of bioreactor technologies for viral antigen production, are now enhancing gross margin potential for this segment.



# QAPs™ – Ensuring Test and Test-Workflow Accuracy

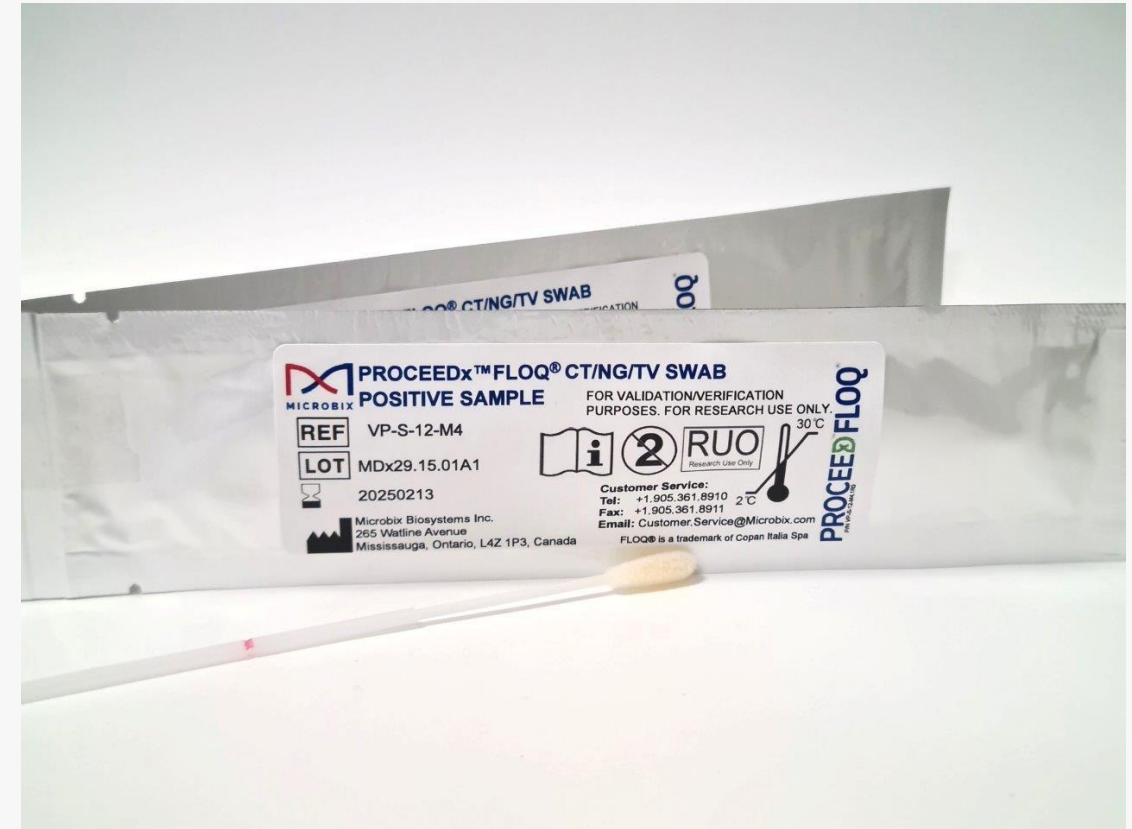
## + Example: QAPs™ Human Papillomavirus (HPV) MDx Panel For use in laboratory-based testing

- + **MBX is the sole provider of quality control materials for extended HPV genotyping panels**
  - HPV molecular diagnostics market is ~US\$ 800M at YE 2022, with 5-10% accessible to MBX QAPs.
- + **MBX supporting launch and ongoing QMS of the HPV assays of leading Dx makers**
  - Providing quality control materials for assay verification/validation, onboarding, etc.
- + **Securing contracts to supply HPV quality control materials for cervical cancer screening**
  - Country-wide programs being targeted (e.g., national screening program in The Netherlands), alongside multi-province support in Canada.



# QAPs™ – Ensuring Test and Test-Workflow Accuracy

- + Example: QAPs™ Supporting Point-of-Care Tests (PoCTs) across multiple pathogens & settings
  
- + MBX uniquely able to provide FLOQswab® format control materials for PoCT support
  - Replicates the sample-collection workflow and provides consistent sample uptake and elution.
  
- + A MBX triplex STI swab QAPs supporting PoCT for *C. trachomatis*, *N. gonorrhea*, & *T. vaginalis*
  - Australia's PoCT program successful in reducing rural re-transmission of STIs.
  
- + MBX QAPs handling stability enables lab-level QMS in a wide range of settings
  - Validated stability  $\geq 2$  years at temperatures of up to 30°C eliminating need for QMS cold-chain.





# Test Controls - Quality Assessment Products (QAPs™)

## + QAPs™ Competitive Advantages



**1. Performance** – QAPs are whole-genome and whole-workflow to prevent systemic errors



**2. Formats** – Having vials & FLOQSwab® formats enable support of both lab-based & point-of-care testing



**3. Stability** – Proven stability at room temp (swabs) or 2-8°C (vials) for up to two years



**4. Multiplexing** – Multiple pathogens loaded onto one QAP to support next generation test-platforms



**5. Resistance/Variants** – Supporting tests for viral variants and tests for antibiotic resistance







**6. Intellectual Property** – Defended by issued or pending patents of both Microbix and Copan



# Test Controls - Quality Assessment Products (QAPs™)

## + Product Lines & Key Achievements

Product Line	Sales Potential Current & Targeted	Target Market(s)
	Currently ~C\$ 1M/yr Targeted ~C\$ 20M/yr	<ul style="list-style-type: none"><li>• Licensed/ registered for sale in Canada, EU, U.S, and Australia</li><li>• Sold directly to clinical lab chains or via distributors (via 10 Cos., into 30+ countries)</li><li>• Targeting multiple lab and distributor accounts of &gt;\$100K/year</li></ul>
	Currently ~C\$ 1M/yr Targeted >>C\$ 20M/yr	<ul style="list-style-type: none"><li>• Often sold directly to Dx makers for inclusion with their test kit consumables</li><li>• The larger Dx makers can become multi-million dollar accounts</li></ul>
	Currently ~C\$ 1M/yr Targeted ~C\$ 5M/yr	<ul style="list-style-type: none"><li>• Often sold directly to Dx makers that want a “white glove” new customer experience</li><li>• Used to support IQ/OQ/PQ of newly-purchased instruments and to train technicians</li></ul>
	Currently ~C\$ 3M/yr Targeted ~C\$ 10M/yr	<ul style="list-style-type: none"><li>• Sold directly to a limited pool of clinical lab accreditation organizations</li><li>• Have already tripled sales from historic base of ~\$1.0M/year</li></ul>

- + Over 200 SKUs at favorable gross margins (~60-70%)
- + Reached sales of ~C\$5.4 M in FY2022, and are targeted to reach a new record for fiscal 2023
- + Secured first major contract with large Dx maker to supply in-kit QAPs
- + International sales into North America, Europe, and Australia

# Kinlytic - Microbix Secures Agreement With Sequel Pharma, LLC

---



+ In an agreement with Sequel Pharma, LLC, MBX to develop Kinlytic for re-entry into US market



May 16, 2023 MBX announced Kinlytic to return to the U.S. market under an agreement with Sequel Pharma Inc. that is intended to provide an estimated C\$ 50 million in pre-launch project-related funding.



Sequel is a private-equity backed pharmaceutical company that specializes in developing and commercializing drugs for the U.S. market.



Kinlytic will initially be used to dissolve blood clots in venous catheters in the U.S., however, will expand to other geographies and clinical indications.



Sequel and Microbix will prepare for an updated consultation with the U.S. Food and Drug Administration (“**FDA**”) and if satisfactory, a supplementary Biologics Licensing Application (“**sBLA**”) will need to be filed.



If FDA consultation is satisfactory, Sequel will make a further US \$2.0 million payment to Microbix, followed by a US\$ 1.0 million milestone on US -re-approval via sBLA, sales-driven milestone payments of up to US\$ 30 million, and ongoing royalties targeted to be a double-digit percentage of net sales.

- + Partnering with Sequel Pharma for re-launch of a LMW cell-culture derived urokinase

## → Kinlytic® Urokinase

Microbix's expertise in biologicals led to its securing rights to this clot-buster drug, that is approved in the U.S. and Canada.

- To resume sales, production at a new site must be validated as equivalent to past batches.
- A path to market settled with U.S. FDA, with CMOs to make drug substance & drug product.
- The U.S. monopoly market for tPA is ~US\$ 1,200 M, of which ~US\$ 350 M is for the catheter clearance sub-indication.

## Specific Kinlytic Activities:

- + **Refined Project Scope**  
Catheter Clearance Indication  
*U.S. market as main value driver*
- + **Established Precise Costs**  
Quotes from qualified vendors  
*Removed risk for partners*
- + **Prepared for Due Diligence**  
Data Room & Project Plans  
*~ 3 years to market post-funding*
- + **Pre-launch funding of ~US\$ 35M**  
*To fully underwrite project cost & risk*



Sequel Pharma has the funding and technical expertise to return Kinlytic to market, which represents a massive opportunity via sBLA, sales-driven milestone payments of up to US\$ 30 million, and ongoing royalties targeted to be a double-digit percentage of net sales.

# Operations - Now Developing & Launching Many New Products Each Year

---



+ Microbix's product lines are rapidly expanding, as is our base of customers.

- + July 2022 – **STI Multiplex** Test Control Results Presented at AACC
- + August 2022 – **QAPs Supply Agreement** Signed with Major Dx Maker
- + October 2022 – **HPV Test-Workflow** Results Presented at EMMD
- + January 2023 – **Mpox Genital Ulcer** QAPs Product Commercialized
- + February 2023 – **HPV Molecular** - Support of Canada's first PCR testing rollout (PEI)
- + March 2023 – **PoCT for STIs** across Australia's rural communities
- + June 2023 – **QAPs Accuracy Tests for AMR STIs** Presented at ASM Microbe Conference
- + June 2023 – **Labquality EQA Program for Genital Ulcer Disease Announced**
- + July 2023 – **QAPs Selected to Support HPV Screening Program in The Netherlands**
- + July 2023 – **FLOQSwab-formatted QAPs Supporting Fourplex PCR Tests for Bacterial STIs**

# Operations - 2022 Highlights



- Microbix now has approximately 110 staff
- CE Mark and/or FDA Registrations for over 50 IVD “REDx” Molecular Test Controls
  - FLOQSwab & Vial Formats
  - Single & Multiplex High Risk HPVs
  - SARS-CoV-2 variants
  - Regular & AMR *M. genitalium*
  - Single & Multiplex Respiratory
  - Single & Multiplex STIs
  - Negative Controls w. Sample Adequacy
- 235 Watline Avenue (building 2) built-out fully completed and operational
  - Semi-auto liquid-vial format QAPs Mfg. suite – 150,000/month capacity
  - Semi-auto dried-swab format QAPs Mfg. suite – 200,000 swabs/month capacity
- 275 Watline Avenue (building 3) leased July 2021
  - Semi-auto DxTM (VTM) Mfg. installed, validated and operational
  - Full-auto line for DxTM to be installed in Fall 2023 – adaptable to other SKUs
- Evolving Organizational Structure
  - New IT Department Operationalized
    - Electronic QMS – MasterControl successfully implemented
    - New ERP – NetSuite successfully implemented





# Financials – A Review of Fiscal 2022

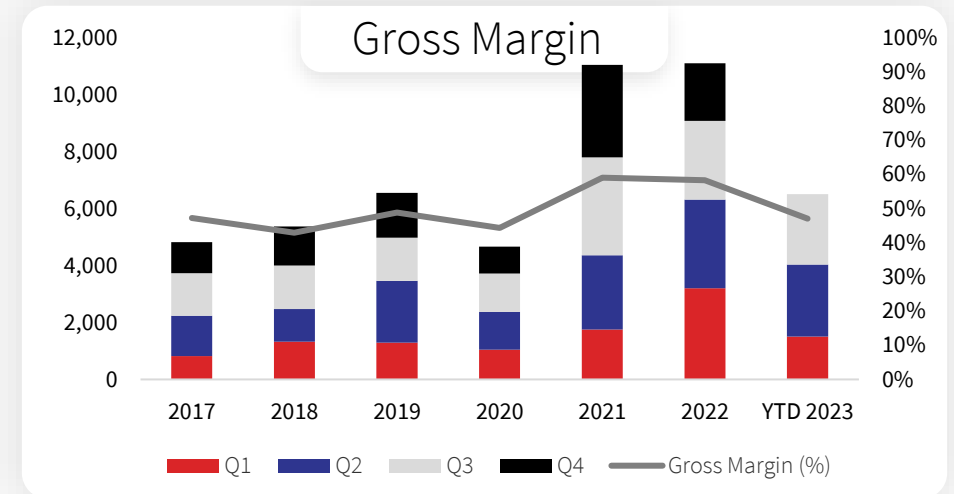
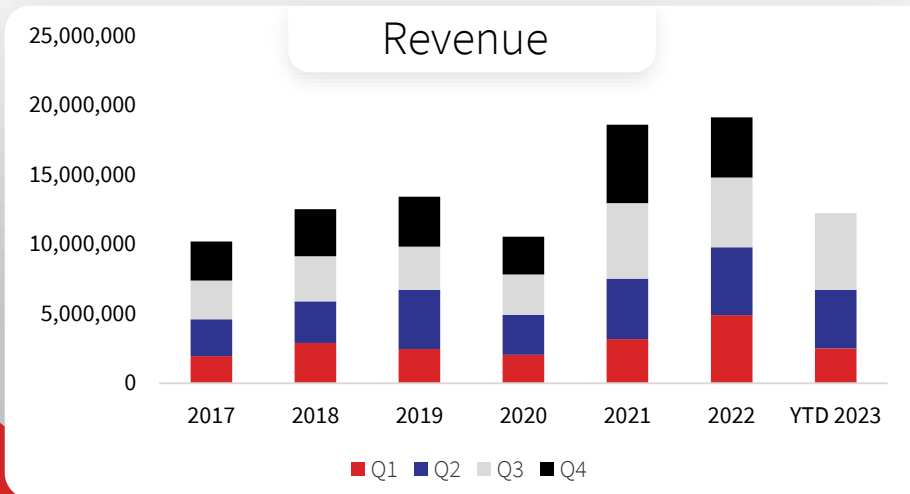
## + Fiscal 2022 Results: A Flattish Year as Company Invests in Growth

- Record revenue of \$19.1M in f2022
- In f2022, created & launched 22 new products with its QAPs and sales from this segment grew 14% y/y.
- Antigen sales slightly slower until Q4 f2022, when they were up 30% versus Q4/21.
- Gross Margin was 58% versus 59% prior year due to inflationary pressures such as increased labour and manufacturing costs, higher supply costs, and infrastructure investments.
- Despite lumpiness of orders and inflationary pressures, Microbix delivered strong f2022 EBITDA performance, positive operating and net incomes.
- At end of fiscal 2022, MBX's Current Ratio was 8.45 and its Debt-to-Equity Ratio was 0.33.
- Expansion and upgrades at facilities pave way for faster revenue growth and better margins.

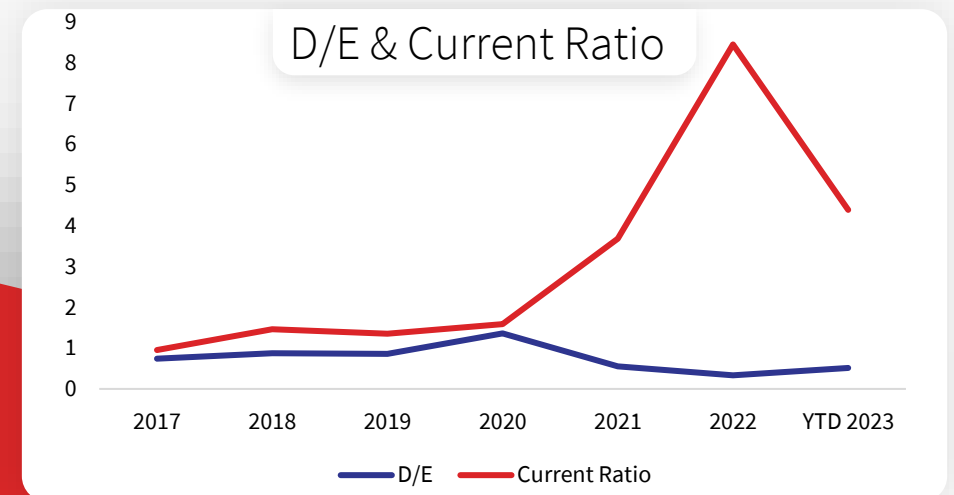
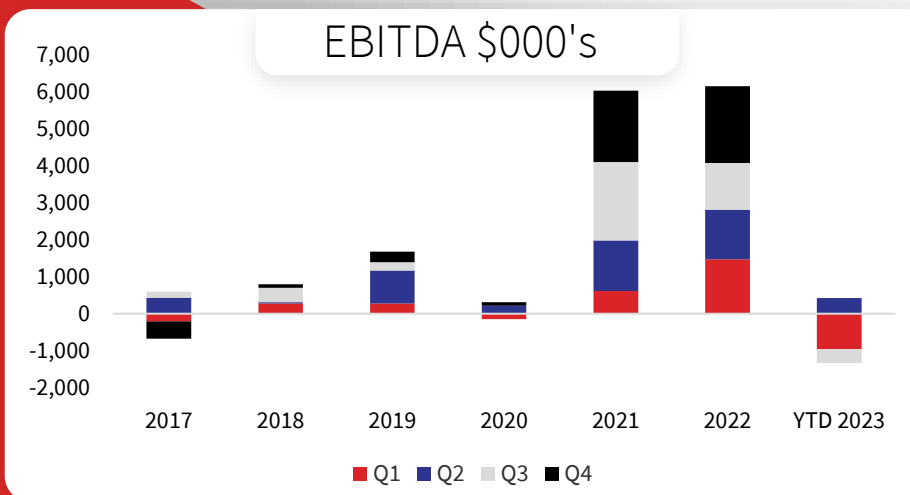


# Financials – The Past Several Years

## + Financial Results – 2017 to 2023 YTD



## Financial Performance



# Key Takeaways about Microbix

## + Highlights & Catalysts



Proven ability to grow revenues  
(to new records for F'22 & '21)



TSX-listed, on OTC QX, positive Earnings  
& Cash Flow (F'22 & '21), equity analyst  
coverage, and decent trading volume.



Leadership, skills, systems, and facilities,  
that fulfill current needs and will enable  
the development of new products and  
acquisition of new customers.



Large opportunities across some of the  
most important and fastest growing  
segments of the global diagnostics industry



Successfully managing multiple lines of  
business & many customer relationships



Strong cash balance and working  
capital, low leverage, and actively  
repurchasing shares (via NCIB).



Accreditations to enable WW sales  
to >30 countries, including ISO  
13485, PHAC & Health Canada, U.S.  
FDA, EU (CE Mark), & TGA (Australia).



Expanding range of products &  
customers, including formal supply  
agreements with major test-makers

# THANK YOU



Corporate Presentation – Fall, 2023

**Cameron Groome**

CEO, President, and Director  
cameron.groome@microbix.com

