Microbix Biosystems Inc.

20 February 2024

MBX-T: $0.35, MBXBF-OTC: US$0.26

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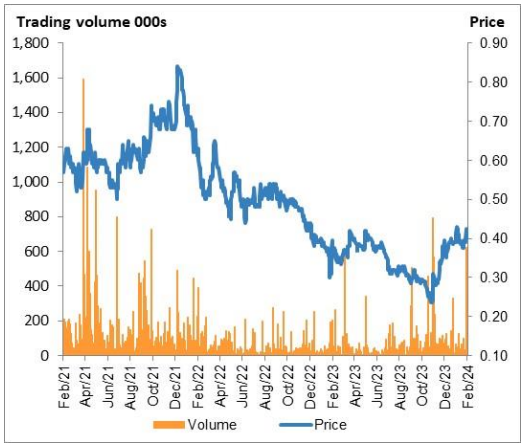
Price	$0.43	Market Cap		$58,034
Target Price	$0.75	Debt		$6,678
Projected Return	76%	Cash		-$12,783
52 Week Range	0.47/0.23	EV ($000s)		$51,929
Basic Shares (000's)	136,550			
FD Shares (000's)*	174,782			
Insiders	13.0%			
Y/E September	**2022**	**2023**	**2024E**	**2025E**
Revenues ($000s)	19,076	16,515	26,211	30,478
EBITDA ($000s)	3,647	1,499	5,426	5,892
Adj. EBITDA** ($000s)	3,647	-2,530	2,010	5,892
FDEPS	0.01	0.00	0.02	0.02
EV/EBITDA	14.2x	34.6x	9.6x	8.8x
*=Assumes conversion of CD; excl out-ot-the-money warrants/options				
**= Adj EBITDA excludes impact of Sequel progress payments				



Profile

Microbix Biosystems Inc. (MBX-T) is a Canada-based life science company and manufacturer of viral and bacterial antigens and cell, culture-based biological products and technologies. MBX's catalogue of antigens covers +30 bacterial and viral pathogens implicated in maternal, pediatric, childhood, respiratory, sexually transmitted and insect-borne diseases. MBX is now focusing on a higher growth opportunity: its QAPs™ product line, targeting quality controls within accreditation organizations, IVD equipment manufacturers, and clinical laboratories. Partners are being sought for its development asset, Kinlytic Urokinase, a biologic thrombolytic drug used to treat blood clots.

Disclosure

Please refer to the important disclosures on page 14.

FQ1/24: MBX CONTINUES TRANSFORMING FROM A MANUFACTURER OF LESS-REGULATED TEST INGREDIENTS (ANTIGENS), INTO HIGHER-MARGIN REGULATED MEDICAL DEVICES (QAPS™). KINLYTIC LICENSING PROVIDES AN UPSIDE. WE DERIVE A $0.75 TARGET.

- **Revenues.** MBX continues transforming from a manufacturer of less-regulated test ingredients (Antigens), into the producer of higher-margin regulated medical devices (QAPs™) relating to infectious-disease diagnostic tests. In this regard, while Antigen revenues recovered to their historical run rate (+94.6%), QAPs™ revenues exceeded their historical $1.0m/quarter revenue run rate to a record $2.2m (+68.6%). FQ1/24 also included the recognition of $4.1m in revenues from the out-licensing of Kinlytic® urokinase (KU). Consequently, total revenues grew 236.0% YoY.
- **Kinlytic.** On 16 May 2023, MBX announced that it had executed a commercialization agreement with Sequel Pharma LLC to reintroduce KU to the catheter clearance (CC) market. MBX has now received US$4.0m of US$5.0m in pre-commercialization milestone payments from Sequel. The final US$1.0m is due upon acceptance of the sBLA. Under the cover of a separate report, we covered this transaction and its financial impact on MBX in detail. We expect filing of the sBLA to occur in early 2027 with receipt of meaningful licensing revenues to commence in 2028.
- **Margins.** Gross margins were 74.0% vs 47.4% reported FQ1/23 due to the positive impact of the $4.1m Sequel licensing payment. Excluding the license payment, base business gross margins were 49.4%, a slight improvement YoY, trending towards management's short-term target of +50%, ultimately targeting 60%.
- **Total expenses**. Operating expenses increased 53.0% YoY due to the final, one-time payment of consulting fees related to the KU licensing agreement, ongoing costs of IT systems implementation, and amortization relating to the write-up of the KU intangible asset.
- **EBITDA.** The benefit of higher sales and recovery in gross margins was offset by the higher operating expenses resulting in an adjusted EBITDA margin for the base business of -10.7% vs -38.4% in FQ1/23.
- **Cash balances.** During FQ1/24, MBX added $1.2m to cash balances, finishing the quarter with $12.8m.

Valuation. Using a sum of parts, we derive a target of $0.75 for MBX by valuing the base business using an EV/EBITDA approach and then adding $20.0m for the KU development asset. We view receiving the second milestone payment as validation of our current approach. We will adjust our valuation of KU once the sBLA is filed using one of the following approaches: $1.30/share on a DCF basis, or $1.00/share based on a 2033E after-tax earnings contribution of $0.11/share discounted at 10% p.a.

Kinlytic® Urokinase (KU)

Given this asset's substantial potential beneficial impact on investors, here we summarize the progress made to date on the KU commercialization.

Background

On 16 May 2023, MBX announced a commercialization agreement with Sequel Pharma LLC (Sequel). It represents the culmination of MBX's previously stated intention to re-commercialize KU. KU, formerly Abbokinase®, is owned 100% by MBX and approved for multiple indications. While originally targeting massive pulmonary embolism, it became the market leader for catheter clearance (CC).

MBX has signed a fully funded redevelopment deal for KU. As part of the deal, MBX was to receive US$5.0m in pre-commercialization payments (detailed below) centered around closing and regulatory approval, then US$30m in sales-based progress payments and a double-digit royalty on net sales. Sequel will fund all development costs.

Progress to date

Of the US$5.0m of pre-commercialization progress payments, US$4.0m have been received:

- **First US$2.0m**. In FQ3/23, MBX received its initial $2.0m progress payment. Of this, US$1.0m was recorded as revenues, and US$1.0m was recorded as deferred revenue.
- **Second US$2.0m**. On 16 November 2023, MBX announced reconfirmation of its agreement with Sequel to return KU to market. Following a satisfactory consultation with the U.S. Food and Drug Administration (FDA) that reconfirmed and built upon prior regulatory guidance, MBX received its second milestone payment of a further US$2.0m.
- **Accounting**: All the second US$2.0m was recorded as revenue and the US$1.0m deferred revenue was also recognized as revenue (being a reversal from deferred revenue) resulting in US$3.0m of progress payments recorded in FQ1/24.
- **Final US$1.0m**. Hence, MBX has now received US$4.0m of US$5.0m in pre-commercialization milestone payments. The final US$1.0m is due upon acceptance of the sBLA[1], expected sometime in 2027.

While Sequel is a private entity, management is currently expecting to provide two to three event-driven updates about KU each year.

Cash implications. The first US$2.0m milestone payment was recorded in cash at the end of Q3/23 (albeit the accounting was split equally between revenues and deferred revenue). The second US$2.0m payment (~$2.7m) was recorded in cash in FQ1/24.

[1] **sBLA**: A Biologics License Application (BLA) is a request for permission to introduce, or deliver for introduction, a biologic product into US interstate commerce. A BLA includes Applicant information, Product/Manufacturing information, Pre-clinical studies, Clinical studies and Labeling. The supplemental BLA (sBLA) means the equivalent successor filing with the FDA, and any supplements or amendments to the original filing.

Write-back of the KU intangible asset. In F2020, due to the lack of progress in finding a buyer/interested party in commercializing KU, the KU intangible asset had been written off resulting in a $3.1m impairment charge in that year. Owing to the receipt of the first milestone payment, the former asset was now deemed to have value and was written back In FQ4/23 and had no cash or tax implications. As a result, the asset is now being depreciated at $75k/quarter.

Timelines

In Figure 1 we provide a list of timelines as they pertain to the Sequel agreement.

Figure 1: MBX/Sequel (anticipated) timelines.

Milestone	Timing	Comment/Financial impact
Entered into Sequel agreement	16/5/23*	Per press release
First milestone payment	June 2023	US$2.0m split: US$1.0m recognized as revenue and US$1.0m recorded as deferred revenue
FDA consultation	October '23	
Second milestone payment	16/11/23*	US$2.0m milestone payment received week of 16/11/23
Receipt of sBLA/third milestone payment	2027E	US$1.0m. KRC Insight estimate assuming 3 years to receipt of sBLA
First revenues	2028E	Initial seeding of the market to commence '27E with ramp '28E
Ongoing revenue-based sales royalties	2028E+	We estimate a 10% of net sales royalty
$30m sales-driven milestone payments	2029+	To be received based on pre-determined revenue targets

Source: Company reports; KRC Insights *=refers to MBX press release

KU asset ownership will transition to Sequel upon receipt of the sBLA, hence the KU asset and the sBLA will become the property of Sequel at that time. However, if at any time prior to the issue of the sBLA development of the KU asset is to be terminated, ownership will remain with MBX.

KU Asset Valuation

We view the receipt of the second milestone payment as validation of our current approach to value the KU asset at a notional $20m. We will adjust our valuation of KU once the sBLA is filed using one of the following approaches:

- $1.30/share on a DCF basis, or
- $1.00/share based on a 2033E after-tax earnings contribution of $0.11/share discounted at 10% p.a.

FQ1/24 Revenues

Microbix continues to transform from being a manufacturer of less-regulated test ingredients (Antigens), into the producer of a catalog of clinically important and fully regulated medical devices (QAPs™) relating to infectious-disease diagnostic tests. In this regard, Antigen revenues recovered to their historical run rate, while QAPs™ recorded both YoY and sequential revenue growth.

With this in mind, apart from the underlying recovery in the base business, the 236% YoY increase in revenues was driven by two additional factors: firstly, the inclusion of just over $4.1m in milestone payments from Sequel, MBX's partner to commercialize KU; secondly, FQ1/23 was MBX's weakest quarter since FQ1/20. Excluding the beneficial impact of the Sequel licensing revenues, organic revenue growth was 72.7% (Figure 2).

Figure 2: MBX FQ1/24 revenues ($000's)

	FQ1/24	FQ1/23	% change	Explanation
Antigen products	1,954	1,004	94.6%	FQ1/23 revenues of $1.0m were the weakest on record. FQ1/24 represents a recovery to historical levels
QAPs™	2,248	1,334	68.6%	Both YoY and sequential revenue growth as this revenue stream continues to ramp
Royalties	119	164	-27.4%	
Base business	4,321	2,502	72.7%	
Kinlytic milestone	4,086			
Total	**8,407**	**2,502**	**236.0%**	

Source: Company reports; KRC Insights

Antigen products. The antigen business was historically a $12.0m p.a. business (2018 and 2019). However, due to COVID, this declined to $8.3m-$9.1m p.a. (F2020-F2022). The recovery trend in revenues seen in F2023 (Figure 3), has continued into F2024 with FQ1/24 antigen revenues up 94.6% YoY as the product line continues to benefit from a post-pandemic recovery in demand across multiple SKUs. There has been a resumption of broad-based testing for infectious diseases in Western nations, combined with a recovery of newer Asian demand.

Figure 3: MBX Antigen revenues ($000s)

Fiscal year	FQ1	FQ2	FQ3	FQ4	Full year
2017	1,887	2,580	2,705	2,720	9,892
2018	2,803	2,922	3,158	3,309	12,191
2019	2,341	3,736	2,792	3,112	11,981
2020	1,946	2,358	2,246	2,138	8,688
2021	2,138	2,524	2,399	2,021	9,082
2022	1,766	1,608	2,284	2,630	8,288
2023	1,004	3,005	2,609	2,975	9,592
2024	1,954				

Source: Company reports

Management stated that "Sales of Antigens for fiscal 2024 are…expected to exceed MBX's pre-pandemic record of $12.0 million in a 12-month period."[2]

QAPs™. QAPs™ revenues historically were a roughly $1.0m/quarter business, hence, the $2.2m recorded in Q1/24 represents a doubling of that run rate. MBX continues to introduce more products in the QAPs™ category[3] in anticipation of launch over the coming quarters with major international diagnostics companies. MBX currently has over 20 customers in this category.

[2] FQ1/24 MD&A p1

[3] Refer to 6 Feb 2024 press release where MBX announced its QAP™ supporting the clinical use and accuracy of molecular ("MDx") tests for infection with Helicobacter pylori (bacterial cause of stomach ulcers)

Specifically, this quarter:

- MBX's largest client for direct purchases of QAPs™ received U.S. FDA "510(k)" approval for its point-of-care-test (PoCT) instrument and for a first assay on that system. MBX's Proceedx™ products are sold for use with QuidelOrtho Corporation's (QDEL-Q) Savanna® Platform. QDEL is a leading global maker of infectious disease diagnostic tests. Investors may recall that on 27 September 2023, MBX announced that it had secured purchase orders for over $1.0m of QAPs™ from QDEL.
- On 7 December 2023, MBX announced that it and BioGX had established a collaboration whereby both are collaborating to make MBX's QAPs™ available to BioGX's Xfree™ customers. BioGX currently recommends nine PROCEEDx™FLOQ® QAPs™ to be used in conjunction with assays that detect a wide variety of infectious organisms, including SARS-CoV-2 (COVID), Influenza A&B (Flu), Group A Streptococcus (Strep), Herpes Simplex Virus 1&2 (Herpes), Varicella Zoster Virus (Chicken Pox), Treponema pallidum (Syphilis), and Mpox virus (Monkeypox).
- QAPs™ sales to clinical labs continue to increase. On 3 January 2024, MBX announced that it had sold and shipped over $1.0m of its QAPs™ to a leading agency that provides clinical laboratory accreditation services. Products include:
    - The upgrade of cervical cancer screening to PCR-based assays.
    - Development of QAPs™ to support tests for the entire range of 14 high-risk types of Human Papillomavirus ("HPV").

An overview of the QAPs™ product line is shown in Appendix I.

VTM. The current semi-automated process can produce over 2.0m units of viral transport medium (VTM} p.a. Management stated on the FQ1/24 conference call that efforts to fully automate the VTM line in Ontario continue with site delivery and site acceptance expected to occur over the "next weeks". So, while sales of VTM) to the Ontario government came to an end in FQ2/22, MBX sees "material and emerging interest" from private customers, and "we'll be building that business line going forward."

FQ1/24 Gross Margins

Gross margins were 74.0%, up from the 47.4% reported FQ1/23 due to the positive impact of the 100%-margin $4.0m Sequel licensing payment. Excluding the license payment, base business gross margins were 49.4% i.e. improved slightly YoY, trending towards management's short-term focus of +50%, with the ultimate target of +60%.

The sequential recovery in the base business gross margin (Figure 4) from 23.8% in FQ3/23 (negatively impacted by a $949k write-off of VTM inventory) and the 33.4% reported in FQ4/23 (due to antigen batch failures) shows that MBX has recovered from the batch failures. Also, the change in sales mix helped the current quarter: in FQ4/23, higher margin QAPs™ sales were 28.0% of the base business vs 52% in FQ1/24.

Figure 4: MBX base business gross margins*

Source: Company reports, KRC Insights *=excludes license payments

Several factors are expected to impact margins going forward:

- **Sales mix**. Gross margins are expected to increase as higher margin QAPS™ sales ramp.
- **Manufacturing process**. Continued transition from roller bottles to bioreactors. While a significant portion of the Antigen business is now bioreactor-based, Mycoplasma is an example of one of the remaining products undergoing transition to bioreactors.
- **Manufacturing volume**. MBX is expecting to add new clients to its Antigen business in Asia/China through its distributor in Asia.
- **Capacity expansion**. MBX has not only expanded its manufacturing capacity substantially, but it has also made material investments to modernize its manufacturing process (Figure 7). This includes the implementation of Enterprise Resource Planning (ERP) software and the move to a paperless Quality Management System (eQMS). Both are essential to benefit the company in the long term as volumes grow but will cause a drag on margins over the medium term.

FQ1/24 Operating Expenses

Total operating expenses increased 53.0% YoY (Figure 5) due to payment of the final consulting fees related to the KU licensing agreement, ongoing costs of IT systems implementation, and amortization relating to the write-up of the KU intangible asset which commenced at the end of fiscal 2023.

Figure 5: MBX FQ1/F24 expenses ($000's)

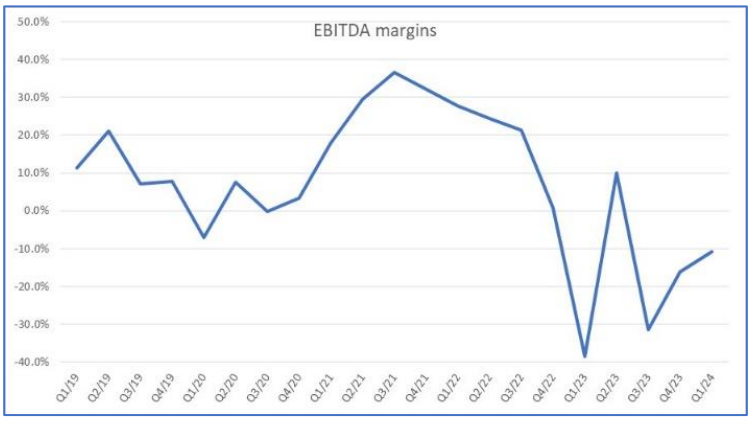
	FQ1/24	FQ1/23	Comment
Selling and business development	364	362	
General and administrative	2,805	1,601	Includes US$500k/C$670k success fee to Torreya Partners for closing the Kinlytic licensing deal, and $75k/quarter amortization for the Kinlytic intangible asset.
R&D	484	425	
Total expenses	3,653	2,388	+53.0%

Source: Company reports; KRC Insights

FQ1/24 EBITDA margin

The benefit of higher sales and recovery in gross margins was offset by the higher operating expenses resulting in an adjusted EBITDA margin for the base business of -10.7% vs -38.4% in FQ1/23. (Figure 6).

Figure 6: MBX base business EBITDA margins*



Source: Company reports; KRC Insights *=excludes license payments

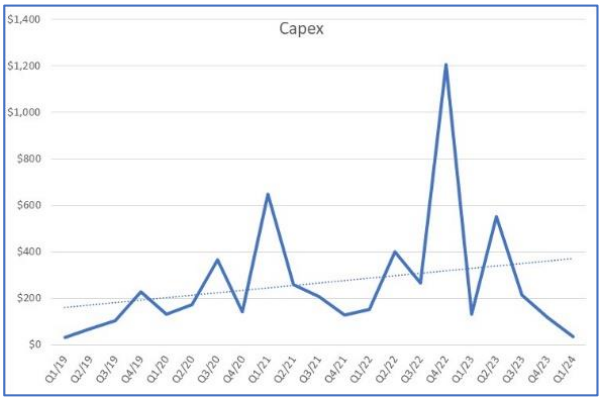
Cash Flow and Balance Sheet

In FQ1/24, MBX reported a $1.2m sequential increase in cash, with cash balances at a healthy $12.8m. Principal contributors to this increase include:

- Benefit of the $4.1m Kinlytic licensing fee; offset to some extent by
- Change in working capital of -$1.8m driven primarily by an inventory build ($392.5k, mainly finished goods) and a decrease in deferred revenues ($1,265k) as this part of the original KU licensing fee was paid (included in the $4.1m referenced above).
- Capex of $36.7k (Figure 7).
- Share repurchases of $52.6k.

MBX has made significant investments in manufacturing capacity expansion (Figure 7). We expect more significant outlays through the balance of F24 on facilities and equipment.

Figure 7: MBX capex ($000s)



Source: Company reports; KRC Insights

This expansion can be summarized as follows in Figure 8:

Figure 8: MBX capacity expansion.

Facility	Capacity (ft^2)	Details
235 Watline	11,000*	Manufacturing of vial and FLOQSwab®-based QAPs™
265 Watline	14,000	Planning is underway for upgrading the portion of the core containment labs to BSL3.
275 Watline	10,000	VTM and Labs (R&D and Quality Control)
Total capacity	35,000	

Source: Company reports, KRC Insights; *=early 2019 MBX leased an additional 10,300ft^2 for initial QAPs™ expansion.

Management estimates that when these expansions are completed, along with the IT systems and ERP upgrades, they will support ~$100m revenue run rate.

MBX has made effective use of government funding for its capex as shown by long-term debt (Figure 9).

Figure 9: MBX total debt at FQ1/24 ($000's)

	Current	Non-current	Total	Detail
Long term debt	111.1	3,912.9	4,024.0	Low interest govt loans: BDC $1.6m, Ontario govt $2.4m,
Lease liability	155.6	660.4	816.0	Covers three facility leases
Convertible Debentures		1,837.8	1,837.8	Debentures mature on 9/28 and 1/29, bear interest at 9%, and have a face value of $4.0m. These are in-the-money and most likely will be converted.
Total debt	266.7	6,411.0	6,677.7	

Source: Company reports, KRC Insights

The debt is well covered (Figure 10).

Figure 10: MBX FQ1/24 total capital employed ($000s)

	31/12/23
Share capital	48,993.8
Equity component of CDs	2,272.6
Contributed surplus	10,415.2
Accumulated deficit	-34,456.0
Total equity	27,225.6
Total debt	6,677.7
Total capital employed	33,903.3

Source: Company reports, KRC Insights

And MBX's updated share count, effectively consistent with FQ4/23, is shown in Figure 11:

Figure 11: MBX fully diluted share count (000s)

	Shares	Options	Warrants	Convert. Deb	Total
At 31/12/23	136,550	11,959	14,632	17,391	180,532
Out of the money			-5,750		-5,750
	136,550	11,959	8,882	17,391	174,782

Source: Company reports, KRC Insights

Estimates

We introduce forecasts for F25E.

Revenues

Our revenue estimates are shown in Figure 12:

Figure 12: MBX Revenue Forecasts ($000's)

Sept. year-end	2024E	2025E	Description
Antigen products	11,511	13,237	Expected continued recovery in antigen sales in F2024 based on new product introductions and increased penetration of Asia/China. Management expects antigen revenues to exceed the pre-pandemic record of $12.0m. We expect this recovery to extend into F2025.
% growth	20.0%	15.0%	
QAPs™	10,175	16,788	We are expecting the continued ramp by major international diagnostic customers which commenced in FQ1/24. Currently, MBX has over 20 QAPs™ clients, all ramping. A major customer received 510K clearance for its point-of-care PCR diagnostic machines[4]. New areas of expansion include geographic expansion and new products (H.pylori for stomach ulcers).
% growth	100.0%	65.0%	
Royalties & Other	4,526	453	F25 includes no KU licensing revenues
% growth	-76.2%	-90.0%	
Total Sales	26,211	30,478	
Total revenue growth	58.7%	16.3%	(34.0% excluding KU licensing fees)

Source: KRC Insights

For F24, we are forecasting a 58.7% YoY revenue growth or 34% excluding KU licensing fees. Principal drivers include a recovery in Antigen revenues to historical levels and a continued ramp of QAPS™ sales evidenced by the commencement of several multi-million-dollar QAPs™ contracts. In addition to the plant expansion discussed above, MBX expects to convert VTM product lines to QAPs™ product lines as well.

Margins

Factoring in anticipated revenue growth, continued improving gross margins, and leveraging the increased cost base as the company expands production and selling expenses, we forecast that EBITDA margins will approach +19.6% by F25E (Figure 13).

Figure 13: MBX EBITDA forecasts ($000s)

Sept. year-end	2023A	2024E	2025E
EBITDA	1,499	5,426	5,892
Margin %	9.1	20.7	19.3
Adj. EBITDA*	(2,530)	2,010	5,892
Margin %	(17.2)	9.3	19.6

Source: KRC Insights Adj EBITDA excludes the impact of Sequel license payments i.e. represents the base business

[4] https://www.quidelortho.com/global/en/resources/press-releases/quidelortho-receives-510-k-clearance-for-savanna-multiplex-molecular-platform-and-savanna-hsv-1-2-vzv-pcr-assay

Valuation

As an overview of the MBX share price, over the past 12 months, the MBX shares have performed materially in line with the iShares U.S. Medical Devices ETF (IHI-N), generating a 12-month return of 3.8% vs 7.2% of the ETF (Figure 14).

The recovery in the MBX shares from the lows of August 2023 can in part be attributed to an anticipated recovery in the base business and progress with regards to the commercialization of the KU licensing revenues (discussed above).

IHI is a ~US$5.6bn ETF and its holdings comprise, amongst others, several MBX customers. It offers exposure to U.S. companies that manufacture and distribute medical devices and is used to express a sector view.

Figure 14: MBX share price vs iShares U.S. Medical Devices ETF (pricing at 16/2/24)

Source: Respective exchanges, KRC Insights

To provide context for the above macro trend, we provide some granularity (Figure 15) regarding our group of MBX comparable companies, some of which are included in the IHI ETF.

This comparable group of companies has experienced an average 16.7% decline in their share prices over the past year (vs +7.2% for the ETF). Our group of comparable companies' 16.7% decline is materially influenced by QuidelOrtho (QDEL-O) whose share price declined 54.2%.

A contributor to the average share price decline would be the 19.1% decline in NTM EBITDA forecasts (today vs. 12 months ago) as the COVID-19 benefit continues to work its way out of the group. The net effect of the greater decline in NTM EBITDA forecasts vs. share prices is reflected in the average 5.1% EV/EBITDA multiple expansion. This is reflected graphically in Figure 16.

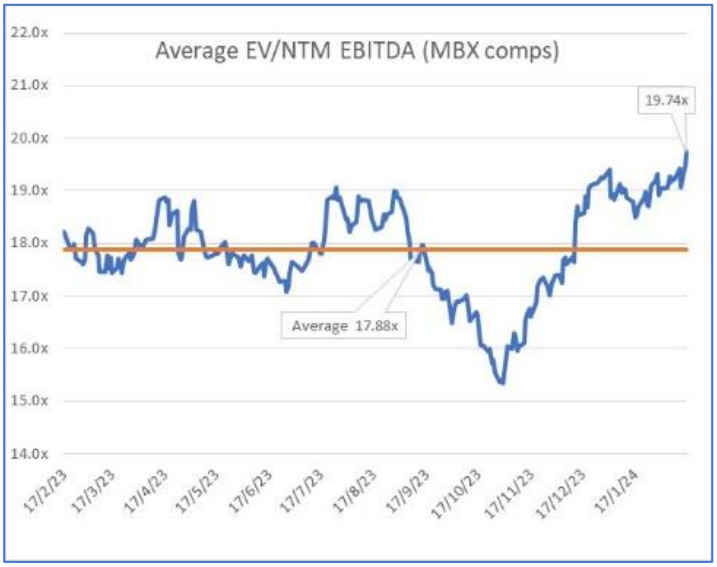
Figure 15: 12-month changes in share prices and NTM EBITDA forecasts (as of 16/2/24)

	Symbol	12-month change in share price %	12-month change in NTM EBITDA %	12-month change in EV/EBITDA multiple %
Microbix Biosystems Inc	MBX.TO	3.8		
Bio Rad Laboratories Inc	BIO.N	-25.31	-28.8%	4.8%
Bio-Techne Corp	TECH.O	-6.07	-14.6%	15.0%
Danaher Corp	DHR.N	10.28	-24.2%	30.1%
DiaSorin SpA	DIAS.MI	-23.41	-20.8%	-1.8%
QuidelOrtho Corp	QDEL.O	-54.17	-16.2%	-28.5%
Thermo Fisher Scientific Inc	TMO.N	-1.75	-10.2%	11.3%
Average		-16.74	-19.1%	5.1%

Source: KRC Insights

This appreciation in valuation multiples is reflected graphically in Figure 16. The average EV/NTM EBITDA multiple has expanded from 18.1x to 19.7x over the 12 months.

Figure 16: MBX comps trend in NTM EV/EBITDA



Source: KRC Insights

The comparable company valuation table is shown in Figure 17. We compare MBX's valuation of its base business (Antigens and QAPs™), excluding the KU asset as it is valued separately. MBX is currently trading at a discount to its peer group on an EV/2025E EBITDA basis (8.8x vs 17.7x).

Figure 17: MBX and comparable companies' valuations (pricing at 1/12/23)

					EBITDA		Revenues		Rev	EV/EBITDA		EV/Revenues	
	Symbol	Price	Mkt Cap	EV	2023A	2025E	2023A	2025E	Growth	2023A	2025E	2023A	2025E
Microbix Biosystems Inc*	**MBX.TO**	**0.43**	**58.0**	**51.9**	**(2.5)**	**5.9**	**15.2**	**30.0**	**98.0%**	**nmf**	**8.81x**	**3.42x**	**1.73x**
Bio Rad Laboratories Inc	BIO.N	327.91	9,987.5	9,574.4	535.9	553.9	2,671.3	2,837.5	6.2%	17.87x	17.28x	3.58x	3.37x
Bio-Techne Corp	TECH.O	70.12	11,256.5	11,567.8	443.1	446.5	1,136.7	1,247.9	9.8%	26.11x	25.91x	10.18x	9.27x
Danaher Corp	DHR.N	247.99	184,731.8	197,273.8	7,530.0	8,628.2	23,890.0	26,024.1	8.9%	26.20x	22.86x	8.26x	7.58x
DiaSorin SpA	DIAS.MI	89.38	5,048.5	5,934.8	372.3	434.2	1,148.2	1,274.7	11.0%	15.94x	13.67x	5.17x	4.66x
QuidelOrtho Corp	QDEL.O	45.27	2,790.3	5,037.6	723.2	777.7	2,997.8	2,993.6	-0.1%	6.97x	6.48x	1.68x	1.68x
Thermo Fisher Scientific Inc	TMO.N	548.27	211,670.2	238,628.2	10,878.0	11,852.5	42,857.0	45,933.4	7.2%	21.94x	20.13x	5.57x	5.20x
Totals/**Average**							74,701.0	80,311.1	**7.5%**	**19.17x**	**17.72x**	**5.74x**	**5.29x**
*=Forecasts for base business only as KU asset valued seperately													

Source: KRC Insights

We believe that as MBX achieves our forecast doubling in revenues of its base business (Figure 17) over the forecast period, this valuation difference will close.

Our updated valuation for MBX (Figure 18) is based on the following metrics:

- Used F25 EBITDA of the base business. There is no benefit in F25 from the KU asset until the US$1.0m due upon filing of the sBLA.
- We apply a 17x EV/2024E EBITDA multiple – consistent with the average of MBX's US-listed peers (Figure 17),
- Using the fully diluted number of shares, which includes the conversion of the convertible debenture, but excludes out-of-the-money options and warrants (Figure 11),
- We have increased our notional value for the KU) asset to $20m to provide recognition in the progress to re-commercialization. Historically, we have applied a notional $10m to our MBX valuation; and believe that the Sequel agreement validates this approach. We will adjust our valuation of KU further once the sBLA is filed.

We derive a target of $0.75 for MBX using a sum-of-parts approach. We value the base business by applying an EV/EBITDA multiple to the base EBITDA and then adding $20.0m for the KU development asset.

Figure 18: MBX valuation ($000s)

		New
F2025EAdj. EBITDA**	$000s	5,892
Multiple	x	17.0x
Enterprise Value	$000s	100,161
Add: Cash 2025E	$000s	16,240
Less: Debt 2025E**	$000s	4,675
Implied market cap	$000s	111,725
Kinlytic urokinase	$000s	20,000
MBX valuation	$000s	131,725
FD # shares**	000s	174,782
Target price	$	0.75
Rounded	**$**	0.75
***=assumes conversion of the CDs.**		

Source: KRC Insights

**= Adj EBITDA excludes the impact of Sequel progress payments and agents' commission i.e. represents the base business

Figure 19: MBX historical and forecast income statement ($000s)

Sept. year-end	$000's	2021	2022	2023	Q1/24	Q2/24E	Q3/24E	Q4/24E	2024E	2025E
Antigen products		9,082	8,288	9,592	1,954	2,500	2,500	4,557	11,511	13,237
% growth		4.5%	-8.7%	15.7%	94.6%	-16.8%	-4.2%	53.2%	20.0%	15.0%
QAPs™		4,705	5,375	5,087	2,248	2,534	2,622	2,770	10,175	16,788
% growth		207.9%	14.3%	-5.4%	68.6%	130.0%	80.0%	131.8%	100.0%	65.0%
VTM		4,507	5,004							
% growth			11.0%	0.0%					0.0%	0.0%
Royalties & Other		299	409	1,835	4,205	114	114	93	4,526	453
% growth		-3.0%	36.5%	349.0%	2452.3%	2.0%	-92.2%	-1.4%	-76.2%	-90.0%
Total Sales		18,593	19,076	16,515	8,407	5,148	5,236	7,420	26,211	30,478
Total revenue growth		76.7%	2.6%	-13.4%	236.0%	22.0%	-5.3%	74.0%	58.7%	16.3%
Cost of goods sold		(7,549)	(7,951)	(9,033)	(2,186)	(2,451)	(2,556)	(3,919)	(11,112)	(14,335)
Gross Margin		11,044	11,125	7,481	6,222	2,697	2,680	3,501	15,099	16,143
Selling and business development		(858)	(1,554)	(1,478)	(364)	(409)	(334)	(466)	(1,573)	(1,768)
General and administrative		(4,316)	(5,162)	(6,693)	(2,805)	(1,678)	(1,371)	(1,679)	(7,533)	(7,924)
Research and development		(1,033)	(1,799)	(2,047)	(484)	(489)	(471)	(652)	(2,097)	(2,164)
Total costs		(6,207)	(8,515)	(7,139)	(3,652)	(2,576)	(2,177)	(2,797)	(11,202)	(11,856)
Operating (Loss)/income		4,837	2,610	342	2,569	121	503	703	3,897	4,287
Interest paid		(1,603)	(744)	(382)	(114)	(112)	(112)	(110)	(450)	(435)
Net income before taxation		3,233	1,866	(39)	2,455	9	391	593	3,447	3,852
Taxation			(77)					0		
Net income		3,233	1,789	(39)	2,455	9	391	593	3,447	3,852
EPS - Basic		$ 0.03	$ 0.01	($ 0.00)	$ 0.02	$ 0.00	$ 0.00	$ 0.00	$ 0.03	$ 0.03
EPS - FD		$ 0.02	$ 0.01	($ 0.00)	$ 0.02	$ 0.00	$ 0.00	$ 0.00	$ 0.02	$ 0.02

		2020	2021	2022	Q1/23	Q2/23	Q3/23E	Q4/23E	2023E	2024E
Gross profit	%	59.4	58.3	45.3	74.0	52.4	51.2	47.2	57.6	53.0
Operating margin	%	26.0	13.7	2.1	30.6	2.4	9.6	9.5	14.9	14.1
EBITDA	$000's	5,659	3,647	1,499	2,952	504	886	1,085	5,426	5,892
EBITDA margin	%	30.4	19.1	9.1	35.1	9.8	16.9	14.6	20.7	19.3
Adj. EBITDA*	$000's	5,659	3,647	(2,530)	(464)	504	886	1,085	2,010	5,892
Adj. EBITDA margin	%	30.9	19.5	(17.2)	(10.7)	9.8	16.9	14.6	9.3	19.6
Effective tax rate	%	--	4.1	--	--	--	--	--	--	--
Net margin	%	17.4	9.4	(0.2)	29.2	0.2	7.5	8.0	13.2	12.6

Source: Company reports, KRC Insights *=excludes the impact of KU progress payments

Appendix I: QAPs™ Products

MBX's QAPs™ product segments can be summarized as follows:

- PTDx™: sold directly to lab accreditation organizations (usually white label).
- PROCEEDx™: sold directly to OEMs for qualifying new instruments and training technicians. Included with their test kit consumables, particularly research use only (RUO) products for use in test systems IQ/OQ/PQ, Verification/Validation, and Training.
- ONBOARDx™: Verification/Validation kit for instrument, kit, or assay qualification and use in internal processes and technician training.
- REDx® controls: to support the formal QC and QA programs of clinical laboratories. These are FDA-listed, and CE-marked products designed for use as Quality Control Samples in a clinical setting.

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