

Microbix Biosystems Inc.

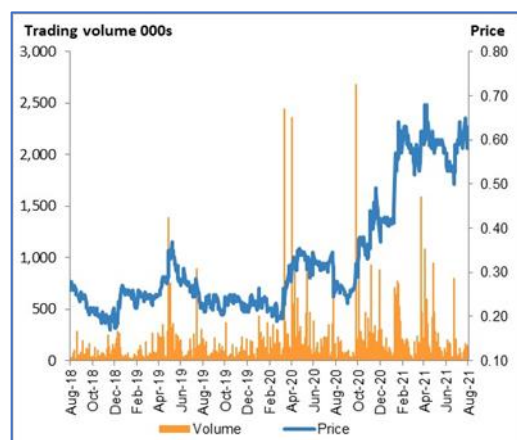
MBX-T: \$0.60, MBXBF-OTC: US\$0.474

20 August 2021

Bruce Krugel 416-509-5593

Price	\$0.60	Market Cap	\$74,341	
Target Price	\$1.70	Debt	\$3,848	
Projected Return	183%	Convert. Debt	\$4,500	
52 Week Range	0.72/0.225	Cash	\$7,507	
Basic Shares (000's)	123,901	EV (\$000s)	\$75,182	
FD Shares (000's)*	179,441			
Insiders	13.0%			
Y/E September	2019	2020E	2021E	2022E
Revenues (\$000s)	13,412	10,525	18,570	29,281
EBITDA (\$000s)	1,679	165	5,903	12,342
EPS	0.00	-0.06	0.02	0.06
EV/EBITDA	44.8x	45.4x	12.7x	6.1x

*Assumes conversion of CD



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. MBX recently entered the high-volume viral transport media (VTM) market through a strategic relationship with the Government of Ontario. VTM sales are expected to become MBX's largest revenue stream within months of launch due to the Province's local sourcing needs and preferences.

Disclosure

Please refer to important disclosures on page 13.

FQ3/21: STRONG QUARTER REITERATES TRACTION IN ALL REVENUE STREAMS; MARGINS CONTINUE TO EXPAND. REDUCING TARGET TO \$1.70 (FROM \$1.80) TO ACCOUNT FOR REVISED REVENUE RAMP

- Revenues.** Revenue growth of 88.1% YoY in FQ3/21 was derived from all three revenue streams: The *antigen* business (+6.8%) continuing to recover off 2020 COVID-induced slow down; *QAPs™* (+84.4%) as new products gained traction aided by the expanded distribution network; and the 2nd quarter of strong *VTM* sales.
- Margins.** Gross margins continued to surprise at a strong 63.2% (due to product mix and improved manufacturing flows) which helped drive EBITDA margins of 36.6% (vs -0.2% in FQ3/20).
- Cash flow.** Consistent with FQ2/21, margin expansion continued to facilitate significant cash flow generation, which was offset by a \$2.6m increase in working capital due to the timing of payments for the government of Ontario's *VTM* shipments.
- VTM.** YTD, around \$1.9m of *VTM* product was shipped to the government of Ontario, suggesting that ~\$2.3m will be shipped in FQ4/21 to fulfil the original \$4.25m order. MBX is in discussion with the province about further purchase orders.
- Equity raise.** On 19 May 2021, MBX completed an equity financing, raising \$6.9m (gross) and \$6.1m (net) through the issue of 11.5m shares at \$0.60 with a half warrant (exercisable over 2 years at \$0.80). This entire amount is earmarked for facility improvements and production expansion over the next 12-18 months. The capacity expansion is consistent with our revenue growth forecasts (2021E:76.4%, 2022E:56.8%). The raise was strategically important for MBX – allowing it to balance its ability to currently quote on future *QAPs™* and *VTM* business knowing capacity is expanding; and as risk mitigation – ensuring the certainty of immediate capacity expansion vs funding capex when future cash flows allow.
- Cash.** After accounting for the capital raise and significant capex, we forecast MBX will end F22 with \$11.7m cash. There is also \$15.5m due from warrants/options, suggesting that MBX will have a war chest for acquisitions, share buybacks, and to accelerate the Kinlytic urokinase commercialization.
- Valuation.** On the conference call management provided updates as to the timing of equipment arrivals/commissioning for the *QAPs™* and *VTM* production automation. This has allowed us to tweak our model – revenues were pushed back by a quarter, but this was mostly offset by continued strong margin performance. We derive a target price of \$1.70 (formerly \$1.80) for the refinanced MBX. We attribute \$10.0m notional value for the Kinlytic urokinase development asset.

MBX reported its FQ3/21 ending 30 June 2021 on 12 August 2021. We expect MBX to report its FQ4/21 ending 30 September 2021 in the third week of December 2021.

FQ3/21 Revenues

MBX continued its quarterly trend of reporting its highest revenues on record, confirming traction in all its product lines.

Strong revenue growth, which commenced in FQ1/21, continued into FQ3 with MBX recording an 88.1% YoY increase (Figure 1). Primary drivers included continued recovery in the base antigen business, continued strong growth of the QAPs™ products and the second quarter contribution of VTM sales, a new product line.

Figure 1: MBX FQ3/21 revenues (\$000's)

	FQ3/21	FQ3/20	% change	Explanation
Antigen products	2,399	2,246	6.8%	Continued recovery in the base business, which commenced in FQ1/20. Sales mix was strong.
QAPs™	1,052	570	84.4%	Broader product offerings, increased penetration into diagnostic test manufacturers and benefits from the expanded distribution channel.
VTM	1,924	-	nmf	First sales of new product line. Ontario placed \$4.25m order with shipments commencing May 2021.
Royalties	77	82	-6.5%	Slightly reduced royalties relating to an annual rabies vaccine technology
Total	5,452	2,898	88.1%	

Source: Company reports; KRC Insights

nmf=not meaningful

Antigen products. After having declined 27.5% in F2020, antigen products, included in immunoassay tests, continue to recover, growing 6.8% YoY. Sales are made to diagnostic testing companies, some of which are included in Figure 12. While MBX is participating in some recovery in diagnostic testing in general off COVID-19 induced declines, revenue levels are still below a ~\$1.0m/month mark which represents the pre-COVID sales run rate.

QAPs™. Expanded product offerings (now 70 product SKUs), particularly among respiratory pathogens and sexually transmitted infections (STIs), combined with the ever-expanding distribution network, continues to drive sales growth. During the quarter, MBX added its first distribution partner for Asia Pacific markets which targets Hong Kong, Indonesia, Singapore, and Malaysia with SDT Molecular; and added Thomas Scientific, as a non-exclusive US distribution partner for QAPs, with a view to directing those principally to the clinical laboratory segment.

QAPs™ are currently manually manufactured; the capital raise is allowing for full automation of this product line to meet forecast demand. Equipment orders for automation of swab-based QAPs and liquid vial based QAPs should be placed over the next couple of months with delivery expected in FQ2-FQ3/22.

VTM. Sales of viral transport medium (VTM) to the Ontario government continue to ramp. In terms of the \$4.25m supply contract, ~\$1.9m has been delivered by the end of FQ3/21, suggesting the balance will be

delivered during FQ4/21. Management is in discussions with the province regarding further purchase orders as MBX has been assured that it will remain a supplier to the province.

Current capacity is 50k vials/week with expansion to 100k vials/week by way of an additional shift. However, as with QAPs™, this product line will see increased automation, and equipment is expected to arrive and be commissioned in FQ2/22.

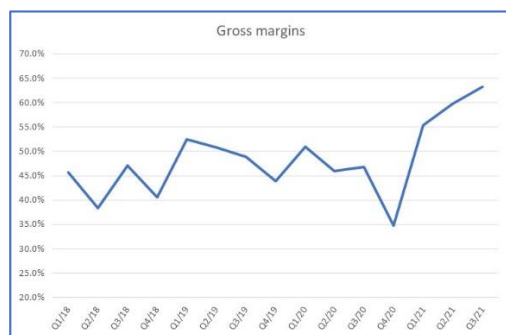
FQ3/21 Gross Margins

Gross margins of 63.2% were higher than our estimates of 58.3% and improved YoY (Figure 2) due to:

- **Sales mix.** Increased contribution from higher margin QAPs™ and VTM products.
- **Bioreactors.** With regards to antigens, MBX continued to benefit from the transition from roller bottle to bioreactor manufacturing.

Gross margins have been expanding since the lows of FQ4/20 when the antigen bioreactors were being scaled to full capacity and supplier materials issues resulted in lost batches. Those issues are resolved as evidence by the subsequent margin expansion.

Figure 2: MBX gross margins



Source: Company reports, KRC Insights

FQ3/21 Expenses

Total expenses increased slightly YoY (Figure 3) as management actively controlled costs. The slight increase is largely related to the higher sales levels.

Figure 3: MBX FQ3/F21 expenses (\$'000's)

	FQ3/21	FQ3/20
Selling and business development	191.0	154.0
General and administrative	1,194.0	1,090.4
R&D	271.5	294.8
Total expenses	1,656.4	1,539.1

Source: Company reports; KRC Insights

Cash flow and Balance Sheet

On 19 May 2021, MBX closed a financing raising \$6.9m (gross) or \$6.1m (net) by way of issuing 11.5m shares at \$0.60 with a half warrant (exercisable at \$0.80 for 2 years).

Operationally, MBX used \$683k in cash flow from operations in FQ3/21 as working capital increased \$2.6m due to the province of Ontario's receivables (since paid), still resulting in cash on hand of \$7.5m, its highest cash balance going back as far as F2015.

Referring to the cash flow statement, primary drivers contributing to the increased cash balance include:

- \$725.5k from the proceeds of exercise of warrants, and
- \$6.1m proceeds from the equity issue.

Primary drivers contributing to uses of cash include:

- Record revenues, gross margins and cost management which were offset temporarily by the increase in working capital of \$2.6m, resulting in a \$683.3k absorption of cash, and
- \$206.5k purchase of property and equipment as MBX expands QAPS™ and VTM production capabilities.

Loans and Borrowings, both long term and short term, are shown in Figure 4. MBX does not have any short-term debt constraints bar for a \$500k non-convertible loan due in April 2022 and a \$500k convertible loan due in February 2022 (and deeply in the money):

Figure 4: MBX total debt at FQ3/21 (\$000's)

	Current	Non-current	Total	Detail
Long term debt	212.8	2,532.4	2,745.1	\$2.2m BDC loan, \$588k FEDA for SA loan
Convertible debentures	1,004.1	1,483.9	2,488.0	Face value \$4.5m, 9%, convert at 23c, \$500k matures 2/22 and \$4.0m matures 1/29
Lease liability	149.6	271.3	420.9	
Non-convertible debentures		681.4	681.4	
Total debt	1,366.5	4,969.0	6,335.6	

Source: Company reports, KRC Insights

MBX capital position continues to improve with total capital employed shown in Figure 5.

Figure 5: MBX FQ3/21 total capital employed (\$000s)

	30/6/21
Share capital	42,215.7
Equity component of CDs	2,903.5
Contributed surplus	11,034.4
Accumulated deficit	-39,439.5
Total equity	16,714.1
Total debt	6,335.6
Total capital employed	23,049.6

Source: Company reports, KRC Insights

MBX's updated share count is shown in Figure 6:

Figure 6: MBX updated share count post financing (000s)

	Shares	Options	Warrants	Convert. Deb	Total
As at FQ3/21 (30/6/21)	123,901	9,979	25,995	19,565	179,441

Source: Company reports, KRC Insights

We reiterate a point made in our last report: Despite forecasting to spend an unprecedented \$6.1m cumulatively in capex over the next 18 months, if 100% of outstanding warrants and options were to be exercised by the end of F22, MBX could have as much as \$27.1m cash by the end of F22 (Figure 7).

Figure 7: MBX – potential cash proceeds from warrants/options

	Number (000s)	Weighted average Exercise price	Weighted average Remaining life*	Potential proceeds	\$000s
Cash balance at 30/9/22					\$11,617
Add:					
Options	2,339	\$0.61	4.63	1,427	
Options	7,640	\$0.25	2.34	1,910	
Warrants	7,888	\$0.74	1.59	5,837	
Warrants	18,107	\$0.35	2.38	6,337	
Proceeds if 100% exercised				15,512	\$27,129
Proceeds if 60% exercised				\$9,307	\$20,904

Source: Company reports, KRC Insights

*=as at 31/3/21

However, given that the warrants and options will still have some life beyond the next 13 months (to end F22), we assume that only 60% of them will be exercised. On this basis, it is reasonable to expect that MBX could finish F22 with as much as \$20.9m cash on the balance sheet.

We view this potential magnitude of cash balances as a gamechanger for MBX as it would facilitate:

- The ability to negotiate larger contracts with diagnostics OEMs
- Acquisitions
- Share buy backs
- Discussions regarding the commercialization of Kinlytic Urokinase

In conclusion, the proceeds from the financing, potential proceeds from existing warrants/options, and cash generated by the business, MBX will have access to a substantial amount of cash to fund future operations, future expansion opportunities and strategic initiatives.

Estimate Changes

Our revenue estimates for F21E and F22E were revised lower to account for:

- QAPs™: timing of the ramp of QAPs™ orders to be consistent with the expected automation equipment delivery schedules.
- VTM: more consistent ordering patterns from the Ontario government.

However, these are offset by the continued margin expansion.

Revenues

Our revenue revisions are shown in Figure 8:

Figure 8: MBX New vs Old Revenue Forecasts (\$000's)

Sept. year-end	2021E		2022E	
	Old	New	Old	New
Antigen products	9,644	9,383	10,415	9,383
% growth	11.0%	8.0%	8.0%	0.0%
QAPs™	6,112	4,584	12,224	11,002
% growth	300.0%	200.0%	100%	140%
VTM	4,000	4,300	9,600	8,600
% growth	nmf	nmf	140%	100%
Royalties	315	302	321	296
% growth	2.0%	-2.0%	2.0%	-2.0%
Total Sales	20,071	18,570	33,512	29,281
Total revenue growth	90.7%	76.4%	62.2%	57.7%

Source: KRC Insights

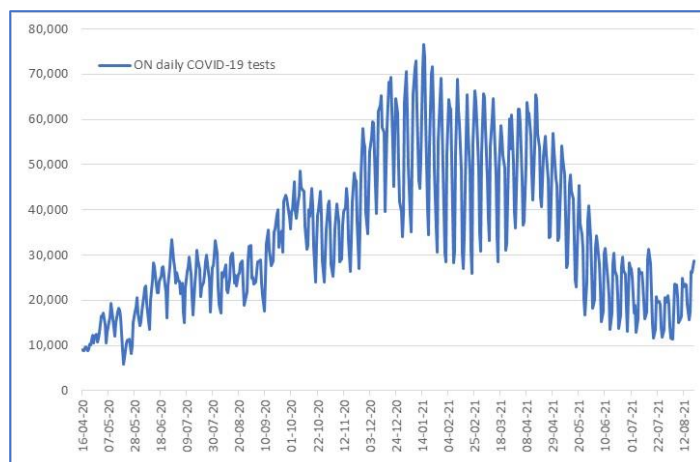
nmf=not meaningful

Antigen products. We maintain our growth forecasts but acknowledge that the continued recovery in PCR testing off COVID-19 induced slowdown is slightly slower than anticipated. In part, due to seasonality of respiratory infections (lower during the summer months) and also the uncertainty of the extent to which schools might re-open for class-based learning in light of the recent surge in the COVID-19 delta variant.

QAPs™. We have scaled back our F22E forecasts but raised our F22E growth rates to account for the timing of the automation equipment will be commissioned. We note that management mentioned on the conference call that discussions were being held that could be “extremely material”, “transformative” and that the company “may see 10x or more scaling of our QAPS™ business”. We believe that investors will see the benefits of these discussions, but timing is difficult to determine. We will update our model once an announcement is made and we have more information.

VTM. MBX’s viral transport medium (VTM) product line (internally branded as DxTM) is currently sold exclusively the Ontario government. We believe that Ontario will continue to use MBX for part of its VTM requirements. The automation of the VTM line will allow MBX to seek additional customers. To provide context for the Government of Ontario’s potential VTM orders, we show the trend in Ontario’s daily COVID-19 testing since commencement in April 2020 in Figure 9.

Figure 9: Ontario daily COVID-19 tests



Source: <https://covid-19.ontario.ca/data>; KRC Insights

In summary, we believe that we are at the early stages of MBX’s historically antigen-based business being superseded by two new higher margin revenue streams: QAPs™ and VTM.

Margins

Factoring in strong revenue growth, maintained gross margins and an increased cost base as the company executes on its expansion strategy, we forecast that EBITDA margins will approximate +42% for F22 (Figure 10).

Figure 10: MBX New vs Old EBITDA forecasts (\$000s)

Sept. year-end	2021E		2022E	
	Old	New	Old	New
EBITDA	6,210	5,903	13,148	12,342
Margin	30.9%	31.8%	40.4%	42.1%

Source: KRC Insights

Valuation

As an overview, over the past 12 months, the MBX share price has outperformed the iShares U.S. Medical Devices ETF (IHI-N), generating a 12-month return of +110.7% return vs +31.1% of the ETF (Figure 11).

The rise in the MBX share price in early February 2021 was in reaction to the announcement of the initial VTM sales.

IHI is a ~US\$8.25bn ETF and its holdings comprise, amongst others, several MBX customers and/or companies listed in Figure 12. It offers exposure to U.S. companies that manufacture and distribute medical devices and is used to express a sector view.

Figure 11: MBX share price vs iShares U.S. Medical Devices ETF (pricing at 25/5/21)



Source: Refinitiv Eikon, KRC Insights

On a more targeted basis, MBX’s listed comparable companies are shown in Figure 12 and comprise the companies used to derive the valuation multiples used in the MBX valuation. The list includes competitor/distributor Meridian Bioscience Inc. (VIVO-Q) and immunoassay customers.

Figure 12: MBX comparable company valuations (currency per exchange, pricing at close 20/8/21)

	Symbol	Price	Mkt Cap	EV	EBITDA		Revenues		Rev Growth	EV/EBITDA		EV/Revenues	
					2020A	2022E	2020A	2022E		2020A	2022E	2020A	2022E
Microbix Biosystems Inc	MBX.TO	0.60	74.3	75.2	0.2	12.3	10.5	29.3	178.2%	454.31x	6.09x	7.14x	2.57x
Bio Rad Laboratories Inc	BIO.N	780.03	23,136.2	21,987.3	537.4	666.8	2,545.6	2,838.7	11.5%	40.91x	32.97x	8.64x	7.75x
Bio-Techne Corp	TECH.O	479.45	18,646.6	18,764.9	233.5	509.4	931.0	1,085.8	16.6%	80.36x	36.84x	20.15x	17.28x
Danaher Corp	DHR.N	321.54	229,547.3	245,926.3	6,581.0	10,072.6	22,284.0	30,163.5	35.4%	37.37x	24.42x	11.04x	8.15x
DiaSorin SpA	DIAS.MI	188.15	10,506.9	10,091.9	385.3	473.8	881.3	1,259.7	42.9%	26.19x	21.30x	11.45x	8.01x
Meridian Bioscience Inc	VIVO.O	19.46	843.7	823.7	77.4	89.8	253.7	283.8	11.9%	10.64x	9.17x	3.25x	2.90x
Quidel Corp	QDELO	118.75	4,943.9	4,350.7	1,135.5	239.8	1,661.7	697.5	-58.0%	3.83x	18.14x	2.62x	6.24x
Thermo Fisher Scientific Inc	TMO.N	555	218,347.5	230,036.5	10,214.0	10,011.3	32,218.0	34,308.6	6.5%	22.52x	22.98x	7.14x	6.70x
Totals/Average							60,775.3	70,637.5	16.2%	31.69x	23.69x	9.18x	8.15x

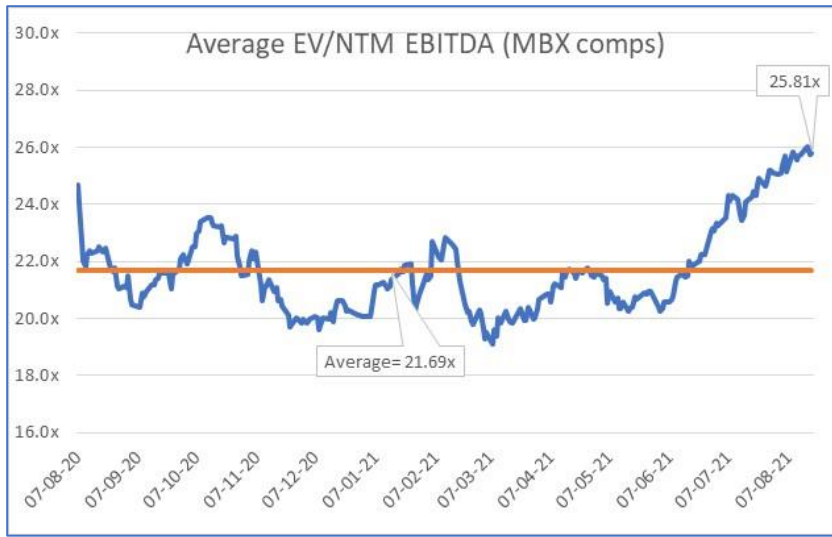
Source: Refinitiv Eikon, KRC Insights

Red=manual input

Within the context of determining the reasonableness/context of the current comparables’ valuation multiples as per Figure 12 (derived from each company’s F22 forecasts), we show the trend in valuation multiples (EV (enterprise value)/NTM (next 12 months) EBITDA) of this group over the past year in Figure 13. An explanation is required: Figure 12 multiples are derived from F22 EBITDA forecasts, while the Figure 13 multiple is derived from the average of NTM EBITDA forecasts of these same companies. Because it is NTM, it is a rolling multiple looking forward 12 months and updated each time forecasts are updated thereby providing a consistent and effective basis for showing the trend in valuation multiples.

The group underwent multiple expansion as the COVID-19 delta variant gained traction.

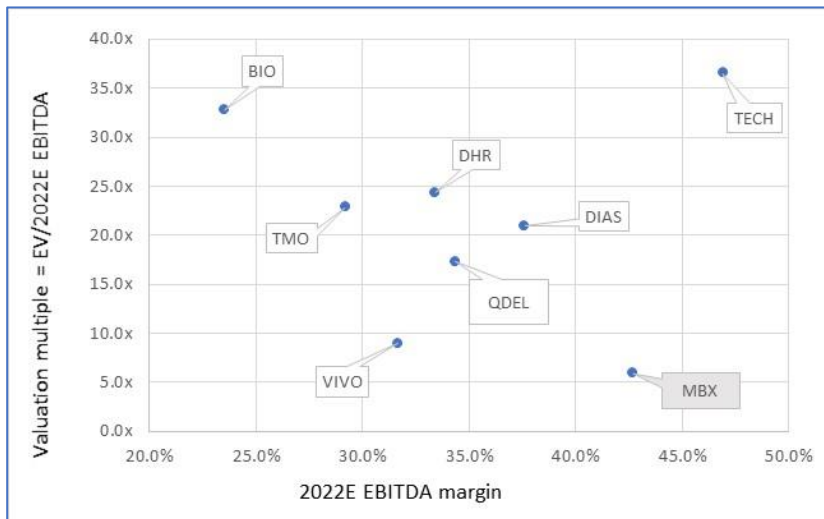
Figure 13: MBX comparable companies' average EV/NTM EBITDA multiples (pricing at 25/5/21)



Source: Refinitiv Eikon, KRC Insights

Despite being forecast to generate the second highest EBITDA margin (and highest revenue growth rates) in our comparable company universe, MBX is attributed the lowest valuation multiple (Figure 14). To underscore the point of a depressed multiple, MBX is valued at a lower multiple than QDEL, a business in decline since revenues are forecast to decline -26.0% p.a. over the next 3 years, and EBITDA to decline from US\$1,136m in F20 to US\$198m in F23E.

Figure 14: MBX and comparable companies valuation multiples vs EBITDA margins



Source: Refinitiv Eikon, KRC Insights QDEL EBITDA margins decline to 27.5% in its F23

Alternatively, MBX, with forecast +60% gross margins, +40% EBITDA margins and a 66.8% p.a. forecast revenue growth rate (2020-2022E) and fully financed, is trading at 10.0x our F22E EPS.

We believe that if this valuation difference persists, MBX will be acquired.

Our updated valuation for MBX (Figure 15) includes the following changes:

- Valuation multiple has declined (we use the average multiple as derived in Figure 13)
- Using the fully diluted number of shares (per Figure 6), we have added the concomitant cash proceeds from the exercise of these instruments, and
- We maintain our notional value for the Kinlytic urokinase (KU) asset at \$10m. We believe that MBX's increased cash position improves its negotiating stance with regards finding a commercialization partner for this asset.

We derive a \$1.70 target price for MBX using an EV/EBITDA approach and adding \$10.0m for the KU development asset.

Figure 15: MBX valuation (\$000s)

		New	Old
F2022E EBITDA	\$000s	12,342	13,148
Multiple	x	21.7x	22.1x
Enterprise Value	\$000s	269,625	290,430
Add: Cash 2022E	\$000s	11,245	8,829
Proceeds from warrants/options		15,512	16,616
Less: Debt 2022E*	\$000s	2,558	2,418
Implied market cap	\$000s	291,902	313,457
Kinlytic urokinase	\$000s	10,000	10,000
MBX valuation	\$000s	301,902	323,457
FD # shares*	000s	179,441	180,441
Target price	\$	1.68	1.79
Rounded	\$	1.70	1.80
*=-assumes conversion of the CDs.			

Source: KRC Insights

Figure 16: MBX historical and forecast income statement (\$'000s)

Sept. year-end	\$'000's	2019	2020	Q1/21	Q2/21	Q3/21	Q4/21E	2021E	2022E
Antigen products		11,981	8,688	2,138	2,524	2,399	2,322	9,383	9,383
% growth		-1.7%	-27.5%	9.8%	7.1%	6.8%	8.6%	8.0%	0.0%
QAPs		1,087	1,528	962	1,495	1,052	1,075	4,584	11,002
% growth			40.5%	3585.5%	251.1%	84.4%	112.5%	200.0%	120.0%
VTM					255	1,924	2,121	4,300	8,600
% growth									100.0%
Royalties		345	309	57	79	77	89	302	296
% growth		8.0%	-10.4%	-22.2%	-12.5%	-6.5%	43.5%	-2.0%	-2.0%
Total Sales		13,412	10,525	3,158	4,354	5,452	5,607	18,570	29,281
Total revenue growth		7.2%	-21.5%	54.3%	51.5%	88.1%	107.2%	76.4%	56.8%
Cost of goods sold		(6,865)	(5,864)	(1,410)	(1,749)	(2,006)	(2,223)	(7,388)	(11,142)
Gross Margin		6,547	4,661	1,747	2,605	3,446	3,383	11,181	18,139
Selling and business development		(652)	(633)	(172)	(198)	(191)	(219)	(780)	(996)
General and administrative		(3,744)	(3,540)	(984)	(1,117)	(1,194)	(1,161)	(4,457)	(4,685)
Research and development		(1,042)	(1,013)	(198)	(216)	(272)	(243)	(928)	(1,230)
Total costs		(5,438)	(5,185)	(1,354)	(1,532)	(1,656.4)	(1,623)	(6,165)	(6,910)
Operating (Loss)/income		1,110	(525)	393	1,073	1,789	1,760	5,016	11,229
Interest paid		(1,066)	(1,056)	(262)	(266)	(273)	(278)	(1,080)	(540)
Net income before taxation		44	(4,659)	131	807	1,516	1,482	3,936	10,689
Taxation		(12)	(1,568)						
Net income		32	(6,228)	131	807	1,516	1,482	3,936	10,689
EPS - Basic		\$ 0.00	(\$ 0.06)	\$ 0.00	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.03	\$ 0.09
EPS - FD		\$ 0.00	(\$ 0.06)	\$ 0.00	\$ 0.01	\$ 0.01	\$ 0.01	\$ 0.02	\$ 0.06
Period-end no. shares - Basic		96,973	108,773	109,447	110,237	123,901	123,901	123,901	123,901
- FD		135,994	161,516	159,281	162,520	179,441	179,441	179,441	179,441
		2019	2020	Q1/21	Q2/21	Q3/21	Q4/21E	2021E	2022E
Gross profit	%	48.8	44.3	55.3	59.8	63.2	60.3	60.2	61.9
Operating margin	%	8.3	(5.0)	12.5	24.7	32.8	31.4	27.0	38.3
EBITDA	\$'000's	1,679	165	567	1,289	1,994	2,051	5,903	12,342
EBITDA margin	%	12.5	1.6	18.0	29.6	36.6	36.6	31.8	42.1
Effective tax rate	%	26.8	(33.7)	--	--	--	--	--	--
Net margin	%	0.2	(59.2)	4.1	18.5	27.8	26.4	21.2	36.5

Source: Company reports, KRC Insights

Appendix I: Terminology

Analyte: a substance whose chemical constituents are being identified and measured.

Antigen: An antigen is any substance that causes your immune system to produce antibodies against it. This means your immune system does not recognize the substance, and is trying to fight it off.

Bioreactor: A bioreactor is an apparatus for growing organisms (yeast, bacteria, or animal cells) under controlled conditions. Used in industrial processes to produce pharmaceuticals, vaccines, antigens or antibodies.

CE: Conformité Européene, a certification mark that indicates conformity with health, safety, and environmental protection standards for products sold within the European Economic Area.

CEW: Canada emergency Wage Subsidy.

Clinical laboratory: is a healthcare facility providing a wide range of laboratory procedures which aid physicians in carrying out the diagnosis, treatment, and management of patients.

CLIA: The Clinical Laboratory Improvement Amendments of 1988 (CLIA) regulations include federal standards applicable to all U.S. facilities or sites that test human specimens for health assessment or to diagnose, prevent, or treat disease.

Epitope: specific area where a specific antibody binds with an antigen.

Immunoassays: quick and accurate tests that can be used on-site and in the laboratory to detect specific molecules.

Immunoglobulin: is the most common type of antibody in blood and other body fluids. Produced by plasma cells (white blood cells).

IVD: In vitro device (IVD) diagnostics are tests done on samples such as blood or tissue that have been taken from the human body. These are typically regulated.

Laboratory accreditation: A means of determining the technical competence of laboratories to perform specific types of testing, measurement and calibration.

LDT: A laboratory developed test (LDT) is a type of in vitro diagnostic test that is designed, manufactured and used within a single laboratory.

Microtiter plate: is a flat plate with multiple "wells" used as small test tubes. The microplate has become a standard tool in analytical research and clinical diagnostic testing laboratories.

OTF: Ontario Together Fund.

PCR: polymerase chain reaction (PCR) test.

Proficiency testing: (PT) the performance evaluations for regulatory purposes, typically applies to laboratories and their specific tests or measurements.

Quality controls: also referred to quality assessment products (QAPs™), are inactivated and stabilized samples of pathogen are created to resemble patient samples in order to support one or more of (i) the proficiency testing (PT) of labs, (ii) test development, instrument validation and technical training, or (iii) quality management of patient testing by clinical laboratories.

Roller bottle: Cylindrical in shape, a roller bottle is used to grow and store cell cultures. Placed on a roller, roller bottles are slowly rotated and bathe cells that are attached to the inner surface of the bottle. Roller bottles are typically made of plastic or autoclavable glass.

ToRCH: An acronym for a group of infections that can cause significant birth defects and even fetal death. The ToRCH test measures the levels of an expecting mother's antibodies against five groups of chronic infections: toxoplasmosis, rubella, cytomegalovirus (CMV), herpes simplex virus (HSV) and other infections.

VTM: Viral Transport Media are vials of liquids into which swabs of patient test samples are placed. VTM preserves the stability of any virus that is present until it can be tested by the clinical lab.

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