August 22, 2022 04:01 AM GMT



# **Biotechnology** | North America

# Biotechnology: 2Q22 SMID Cap Earnings: Wave 3

We provide earnings updates from ADGI, CERE

WHAT'S	Cerevel Therapeutics Holdings Inc (CERE.O)	From	То
CHANGED	Price Target	\$39.00	\$50.00

**ADGI (UW, \$3 PT):** Mgt. has engineered multiple antibodies with activity against all known COVID variants and plans to initiate clinical trials in 1Q23. Mgt. ended 2Q with cash of \$475M for runway into 2Q24 (vs. 2H24 as previously announced with 1Q).

**CERE (OW, \$50 PT):** CERE benefited from Karuna (not covered) reporting positive Ph3 (EMERGENT-2) data testing KarXT in schizophrenia. We note that KarXT is a M1/M4-preferring muscarinic agonist compared to Emraclidine, which selectively targets the M4 muscarinic receptor (PAM). KarXT achieved a 9.6-point reduction in PANSS Total Score which was at the high-end of investor expectations. Investors are now focused on the heart rate study for Cerevel with data expected by YE22. Model changes: We updated our model for the \$254M equity raise, \$300M convertible debt and increased our POS on emraclidine from 50% to 60% after the Karuna data. Our new PT is now \$50 (from \$39). Key takeaways: (1) Emraclidine: Both Ph2 (EMPOWER-1/EMPOWER-2) have been initiated and initial data is expected in 1H24. Trial design: Each trial will enroll 372 schizophrenia patients with an acute exacerbation of psychotic symptoms who exhibit baseline PANSS total scores from 85 to 120. Patients will be randomized 1:1:1 into one of two emraclidine dose arms (10/30mg and 15/30 mg) or placebo. The primary endpoint is change in the PANSS total score after six-week treatment. Data from the ongoing 8-wk ambulatory blood pressure monitoring trial are expected by YE22; (2) Darigabat: Ph2 REALIZE trial in focal epilepsy is ongoing with initial data expected in mid-2023; (3) Tavapadon: All three Ph3 trials in early- and late-stage PD patients (TEMPO-1, -2, and -3) are ongoing, along with the corresponding open-label extension trial (TEMPO-4). Data from lateand early-PD are expected in 1H23 and 2H23, respectively; (4) CVL-871: Mgt. is conducting a Ph2a exploratory trial in dementia-related apathy with multiple endpoints. Data for this trial are anticipated in 1H23; (5) Financials: Cash at the end of 2Q was \$531.2M.

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For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report.



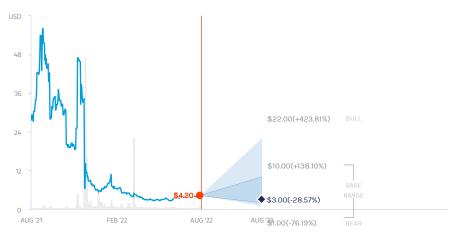
# Risk Reward – Adagio Therapeutics, Inc (ADGI.O)

Ability to neutralize Omicron drives risk/reward

#### PRICE TARGET \$3.00

We derive our PT from a DCF methodology. We utilize a 12.5% discount rate and a 0.0% terminal growth rate for Adagio, as lead pipeline candidate is currently in Phase 3 trials.

#### **RISK REWARD CHART**



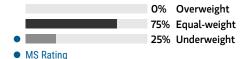
Key: — Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Refinitiv, Morgan Stanley Research

#### **UNDERWEIGHT THESIS**

- We are Underweight Adagio because the the ADGI may have missed the "window" of COVID.
- While ADG-20 has a strong profile in terms of dosing and formulation, it may not work well against the dominant new variant Omicron.
- Omicron wave may pass prior to mgt. have definitive clinical data of ADG-20.

#### **Consensus Rating Distribution**



Source: Refinitiv, Morgan Stanley Research

#### **Risk Reward Themes**

Disruption: Positive
Secular Growth: Positive
Market Share: Positive

View descriptions of Risk Rewards Themes <a href="here">here</a>

# BULL CASE \$22.00

#### DCF

In our bull case, we apply 85% prob of success to ADG20. We project peak revenues of ~\$0.8B in 2023E.

# **\$2.00 - \$10.00**

#### DCF

In our base case, we assume some revenues with a 2023 launch, but limited sales due to low omicron neutralization. We project peak sales of ~\$0.4B in 2023. We assume a 40% POS.

### **BEAR CASE**

#### \$1.00

#### Cash Value/Share

Assumes pipeline failure, and the company is valued at cash.



# Risk Reward - Adagio Therapeutics, Inc (ADGI.O)

#### **KEY EARNINGS INPUTS**

 Drivers
 2021
 2022e
 2023e
 2024e

 Total Revenue Growth (%)
 NA
 NA
 NM
 NM

#### INVESTMENT DRIVERS

- STAMP trial interim efficacy analysis in 1H2O22
- Anticipated EUA for COVID-19 treatment in 1H22, followed by full approval in late '22-early '23
- EVADE trial PEP results in 1H22 and PrEP results in 2H22
- · Competitors' newsflow

### **GLOBAL REVENUE EXPOSURE**



Source: Morgan Stanley Research Estimate View explanation of regional hierarchies <u>here</u>

#### **SUSTAINABILITY & ESG**

Indicator of Change	1.00	+1.0	-1.0
Disclosure Rate	24%		

#### **RISKS TO PT/RATING**

#### **RISKS TO UPSIDE**

- ADG 20 sales exceeds expectations due to pandemic persistence/outbreaks
- Variants of concern develop resistance to other mAbs
- Oral antivirals take less marketshare

#### **RISKS TO DOWNSIDE**

- Clinical trial failures or negative regulators feedback
- Smaller market or slower penetration due to easing of the COVID-19 pandemic
- Unexpected changes in COVID-19 competitive landscape

#### **OWNERSHIP POSITIONING**

Inst. Owners, % Active 88.4%

HF Sector Long/Short Ratio 2.1x

HF Sector Net Exposure 20.1%

Refinitiv; MSPB Content. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure - Short Exposure).

#### MS ESTIMATES VS. CONSENSUS



(\$, mm) Note: There are not sufficient brokers supplying consensus data for this metric

EPS
(\$)

Note: There are not sufficient brokers supplying consensus data for this metric

◆ Mean ◆ Morgan Stanley Estimates

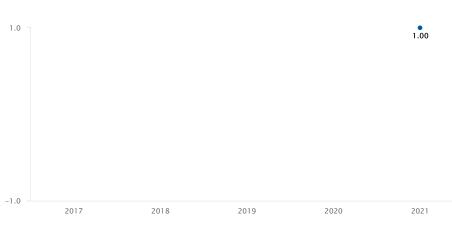
Source: Refinitiv, Morgan Stanley Research



# Risk Reward – Adagio Therapeutics, Inc (ADGI.O)

# SUSTAINABILITY AND ESG

#### INDICATOR OF CHANGE OVER TIME



Governance	Unit	Dec '19	Dec '20	Dec '21
Avg tenure of the board	Years	-	0.35	0.79
Female board members	Percentage	-	20.00%	22.22%
Independent board members	Percentage		60.00%	77.78%
Shares owned by board members	Percentage		-	19.92%

Indicator of change chart is plotted using the fiscal aligned methodology. View explanation of 'Indicator of Change' methodology here

Source: Company Data, Morgan Stanley Research

#### **SUMMARY**

--- All --- Gov

### ESG Data/Indicator of Change

In 2021, Key ESG metrics that improved in 2021 were number of female board members (~22%) and number of independent directors (~78%) and shares owned by board (~20%).

Its ESG disclosure rate was 24% in 2021.

#### Sustainable Solutions

Adagio generates 100% revenues/ EBITA from products that are exposed to the "Treating Illness" Sustainability theme.

#### SUSTAINABLE SOLUTIONS

Theme	Exposure
Treating Illness	100% (EBITA)
Exposure is presented for top four Sustainability View explanation of Theme/Exposure methodological exposure methodology.	



Exhibit 1: Adagio Income Statement

Adagio Therapeutics Income Statement (\$M)	2019A	2020A	2021A	1Q22A	2Q22A	3Q22E	4Q22E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Total Revenue (\$M)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$161	\$181	\$191	\$319	\$328	\$328	\$321
Costs & Expenses:																
Cost of sales	-	-							-	25.8	27.2	28.6	47.9	49.2	49.2	49.2
Research & Development	7.	21.9	176.3	88.9	33.7	28.0	24.4	175.0	150.0	127.5	114.8	103.3	92.9	88.3	83.9	79.7
SG&A	-	3.2	25.3	9.9	11.6	9.2	9.2	40.0	60.0	100.0	100.0	98.0	96.0	94.1	92.2	90.4
Total Costs & Expenses	-	25.0	201.6	98.8	45.4	37.2	33.6	215.0	210.0	253.3	242.0	229.9	236.9	231.6	225.3	219.3
Income (Loss) from Operations (\$M)	\$0.0	(\$25.0)	(\$201.6)	(\$99)	(\$45)	(\$37)	(\$34)	(\$215.0)	(\$210.0)	(\$91.9)	(\$60.6)	(\$39.0)	\$82.5	\$96.1	\$102.6	\$109.0
Interest income and other, net	-	0.0	0.1	0.1	0.8	2.3	2.3	5.4	3.3	1.3	0.3	0.5	0.0	0.8	1.7	2.8
Other comprehensive Income			(0.0)	0.0												
Income (Loss) Before Provision for Income Taxes	~	(25.0)	(201.5)	(98.7)	(44.6)	(34.9)	(31.3)	(209.6)	(206.7)	(90.6)	(60.3)	(38.5)	82.5	96.9	104.4	111.7
Taxes			-			-			-			12				
Non-GAAP Net Income (Loss) (\$M)	2	(\$25.0)	(\$201.5)	(\$98.7)	(\$44.6)	(\$34.9)	(\$31.3)	(\$209.6)	(\$206.7)	(\$90.6)	(\$60.3)	(\$38.5)	\$82.5	\$96.9	\$104.4	\$111.7
Non-GAAP EPS	NM	(\$0.48)	(\$4.73)	(\$0.91)	(\$0.41)	(\$0.31)	(\$0.28)	(\$1.86)	(\$1.82)	(\$0.73)	(\$0.44)	(\$0.25)	\$0.54	\$0.63	\$0.68	\$0.72
GAAP Net Income (\$M)	\$0.0	(\$65.3)	(\$226.8)	(\$100.7)	(\$50.990)	(\$43.9)	(\$40.2)	(\$235.7)	(\$233.8)	(\$118.7)	(\$89.4)	(\$68.7)	\$51.2	\$64.4	\$70.6	\$76.7
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GAAP EPS	NM	(\$1.25)	(\$5.32)	(\$0.93)	(\$0.47)	(\$0.39)	(\$0.36)	(\$2.09)	(\$2.05)	(\$0.95)	(\$0.65)	(\$0.45)	\$0.34	\$0.42	\$0.46	\$0.49
Shares used in computing net income (loss) per share	:															
Basic (GAAP)	ND	52.2	42.6	107.9	108.2	111.7	111.7	111.7	112.7	113.6	125.5	137.5	138.4	139.4	140.3	141.3
Diluted (GAAP)	ND	52.2	42.6	107.9	108.2	112.8	112.8	112.8	113.8	125.0	138.1	151.2	152.3	153.3	154.3	155.4

Source: Company Data and Morgan Stanley Research

Exhibit 2: Adagio Balance Sheet

Adagio Therapeutics Balance Sheet (\$M)	2020A	2021A	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Current assets:											
Cash and cash equivalents	115.0	542.2	331.7	125.8	28.4	45.1	4.2	76.5	171.6	275.1	386.4
Marketable securities		49.2	49.2	49.2	49.2	49.2	49.2	49.2	49.2	49.2	49.2
Restricted Cash		-		-	-	-		-	-	-	-
Accounts Receivables		-	-	-	1.6	1.8	1.9	3.2	3.3	3.3	3.3
Inventory	-	-	2.2	2.1	2.3	2.1	2.0	1.9	1.8	1.8	1.7
Prepaid expenses and other current assets	2.4	25.3	-	-	8.1	9.1	9.5	16.0	16.4	16.4	16.4
Total current assets	117.4	616.7	383.0	177.1	89.5	107.3	66.9	146.8	242.3	345.7	457.0
Property and equipment, net	-	0.1	0.1	0.1	1.6	3.3	5.0	7.9	10.6	13.2	15.7
Other assets		3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Operating lease right-of-use assets		-		-	-	-		-	-	-	-
Total assets	117.4	620.1	386.4	180.4	94.5	113.9	75.2	157.9	256.2	362.2	476.0
Accounts payable Accrued expenses Operating lease liabilities Total current liabilities Long-term debt Operating lease liabilities, net of current portion	8.2 4.9 - 13.1	5.8 56.3 - 62.1	15.1 21.5 - 36.6	14.7 21.0 - 35.7	15.9 22.8 - 38.7	15.0 21.5 - 36.5	14.1 20.1 - 34.2	13.2 18.9 - 32.1	12.8 18.2 - 31.0	12.3 17.6 - 29.9	11.9 17.0 - 28.9
Other non-current liabilities	0.0	0.0	7.5	15.0	22.5	30.0	37.5	45.0	52.5	60.0	67.5
Total liabilities	13.1	62.1	44.1	50.7	61.2	66.5	71.7	77.1	83.5	90.0	96.4
Convertible preferred stock	169.5	-	-	-		-	-	-	-	-	-
Stockholders' equity:											
Common stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Additional paid-in capital	0.2	850.1	870.2	891.3	913.6	1,017.1	1,041.9	1,068.0	1,095.5	1,124.5	1,155.1
Treasury Stock	(0.1)	-	-	-	-	-	-	-	-	-	-
Accumulated deficit	(65.3)	(292.1)	(527.8)	(761.6)	(880.3)	(969.7)	(1,038.4)	(987.2)	(922.8)	(852.2)	(775.5
Total stockholders' equity	(65.2)	558.0	342.4	129.7	33.3	47.4	3.5	80.8	172.7	272.3	379.5
Total liabilities and stockholders' equity	117.4	620.1	386.4	180.4	94.5	113.9	75.2	157.9	256.2	362.2	476.0

Source: Company Data and Morgan Stanley Research



Exhibit 3: Adagio Cash Flow Statement

Adagio Therapeutics Cash Flow Statement (\$M)	2020A	2021A	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Cash Flows from Operating Activities:											
Net income (loss)	(65.3)	(226.8)	(235.7)	(233.8)	(118.7)	(89.4)	(68.7)	51.2	64.4	70.6	76.7
Adjustments:											
Stock-based compensation expense	0.2	17.8	18.7	19.6	20.6	21.6	22.7	23.8	25.0	26.2	27.6
Depreciation & amortization expense	-	1.431	0.0	0.0	0.0	0.1	0.2	0.4	0.5	0.7	0.8
Non-cash payment		0.1	-	-	-	-	-	-	-	-	-
Non-cash acquired in-process R&D	39.9	-	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Changes in operating assets and liabilities:											
Accounts receivable	-	-	-	-	(1.6)	(0.2)	(0.1)	(1.3)	(0.1)	(0.0)	(0.0)
Inventory	-	-	(2.2)	0.0	(0.2)	0.1	0.1	0.1	0.1	0.1	0.1
Prepaid expenses and other current assets	(2.4)	(22.9)	25.3	-	(8.1)	(1.0)	(0.5)	(6.4)	(0.4)	(0.0)	(0.0)
Accounts payable	8.2	(2.4)	9.3	(0.4)	1.2	(0.9)	(0.9)	(0.9)	(0.5)	(0.4)	(0.4)
Accrued expenses and other current liabilities	4.9	51.4	(34.8)	(0.5)	1.8	(1.3)	(1.3)	(1.2)	(0.7)	(0.6)	(0.6)
Other non-current assets		(3.3)	-	-	-	-	-	-	-	-	-
Other non-current liabilities		0.0	-	-	-	-	-	-	-	-	-
Operating lease liabilities		-	-	-	-	-	-	-	-	-	-
Net cash provided by (used in) operating activities	(14.6)	(184.7)	(211.9)	(207.5)	(97.5)	(63.4)	(41.0)	73.2	95.8	104.0	111.6
·											
Cash flows from investing activities: Purchases of property and equipment Purchases of marketable securities	÷	(0.1) 138.0	-	-	(1.6)	(1.8)	(1.9)	(3.2)	(3.3)	(3.3)	(3.3)
Purchases of property and equipment Purchases of marketable securities Maturities of marketable securities	-	138.0 (188.627)	- -	-	-	-		-	-	-	-
Purchases of property and equipment Purchases of marketable securities	-	138.0		-	(1.6)	(1.8)	(1.9)	(3.2)	(3.3)	(3.3)	(3.3)
Purchases of property and equipment Purchases of marketable securities Maturities of marketable securities Net cash used in investing activities		138.0 (188.627)		-	-	-		-	-	-	-
Purchases of property and equipment Purchases of marketable securities Maturities of marketable securities Net cash used in investing activities  Cash flows from financing activities:		138.0 (188.627) (50.7)	-	-	-	-		-	-	-	-
Purchases of property and equipment Purchases of marketable securities Maturities of marketable securities Net cash used in investing activities  Cash flows from financing activities: Proceeds from the issuance of convertible preferred st	129.5	138.0 (188.627) (50.7)	_	_	(1.6)	(1.8)	(1.9)	(3.2)	(3.3)	(3.3)	(3.3)
Purchases of property and equipment Purchases of marketable securities Maturities of marketable securities Net cash used in investing activities  Cash flows from financing activities: Proceeds from the issuance of convertible preferred st Proceeds from issuance of common stock and exercise	129.5 0.0	138.0 (188.627) (50.7) 335.2 330.9	- 1.4	1.6	-	-		-	(3.3)	-	-
Purchases of property and equipment Purchases of marketable securities Maturities of marketable securities Net cash used in investing activities  Cash flows from financing activities: Proceeds from the issuance of convertible preferred st Proceeds from grant of restricted common stock and exercise Proceeds from grant of restricted common stock award	129.5 0.0 (0.0)	138.0 (188.627) (50.7) 335.2 330.9	1.4	- 1.6 -	(1.6)	(1.8) - 81.9	(1.9) - 2.1	- (3.2)	- (3.3) - 2.5	(3.3)	(3.3) - 3.0
Purchases of property and equipment Purchases of marketable securities Maturities of marketable securities Net cash used in investing activities  Cash flows from financing activities: Proceeds from the issuance of convertible preferred st Proceeds from issuance of common stock and exercise Proceeds from grant of restricted common stock award Payments made for initial public offering costs	129.5 0.0 (0.0)	138.0 (188.627) (50.7) 335.2 330.9 - (3.4)	1.4	- 1.6 -	- (1.6)	(1.8) - 81.9	(1.9) - 2.1 -	- (3.2) - 2.3 -	- (3.3) - 2.5 -	- 2.8	(3.3) - 3.0
Purchases of property and equipment Purchases of marketable securities Maturities of marketable securities Net cash used in investing activities  Cash flows from financing activities: Proceeds from the issuance of convertible preferred st Proceeds from grant of restricted common stock and exercise Proceeds from grant of restricted common stock award	129.5 0.0 (0.0)	138.0 (188.627) (50.7) 335.2 330.9	1.4	- 1.6 -	(1.6)	(1.8) - 81.9	(1.9) - 2.1	- (3.2)	- (3.3) - 2.5	(3.3)	(3.3)
Purchases of property and equipment Purchases of marketable securities Maturities of marketable securities Net cash used in investing activities  Cash flows from financing activities: Proceeds from the issuance of convertible preferred st Proceeds from issuance of common stock and exercise Proceeds from grant of restricted common stock award Payments made for initial public offering costs	129.5 0.0 (0.0)	138.0 (188.627) (50.7) 335.2 330.9 - (3.4)	1.4	- 1.6 -	- (1.6)	(1.8) - 81.9	(1.9) - 2.1 -	- (3.2) - 2.3 -	- (3.3) - 2.5 -	- 2.8	(3.3)
Purchases of property and equipment Purchases of marketable securities Maturities of marketable securities Net cash used in investing activities  Cash flows from financing activities: Proceeds from the issuance of convertible preferred st Proceeds from grant of restricted common stock and exercise Proceeds from grant of restricted common stock award Payments made for initial public offering costs Net cash provided by financing activities	129.5 0.0 (0.0) - 129.6	138.0 (188.627) (50.7) 335.2 330.9 - (3.4) 662.7	1.4	1.6 - - 1.6	1.7	(1.8) 81.9 - 81.9	2.1	2.3	2.5	2.8	3.0
Purchases of property and equipment Purchases of marketable securities Maturities of marketable securities Net cash used in investing activities  Cash flows from financing activities: Proceeds from the issuance of convertible preferred st Proceeds from issuance of common stock and exercise Proceeds from grant of restricted common stock award Payments made for initial public offering costs Net cash provided by financing activities  Net increase in cash, cash equivalents, restricted cash &	129.5 0.0 (0.0) - 129.6	138.0 (188.627) (50.7) 335.2 330.9 - (3.4) 662.7	1.4	1.6 - - 1.6	1.7	(1.8) 81.9 - 81.9	2.1	2.3	2.5	2.8	3.0

Source: Company Data and Morgan Stanley Research

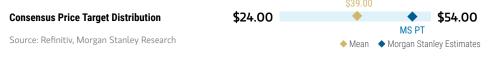


# Risk Reward - Cerevel Therapeutics Holdings Inc (CERE.O)

Tavapadon, CVL-231 and darigabat Drive Risk/Reward

### PRICE TARGET \$50.00

Our PT is derived from a DCF through 2035E that uses a 12.5% discount rate. The revenue drivers in our model are Darigabat, CVL-231 and Tavapadon. We currently do not model CVL-871 and CVL-936 given their early stage of development.



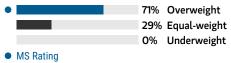
#### **RISK REWARD CHART**



#### **OVERWEIGHT THESIS**

- Our Overweight thesis is based on tavapadon which is partially derisked by mid-stage data which provides valuation support.
- CVL-231 has clear properties supporting its competitiveness in schizophrenia and we expect the near-term update to be positive
   We also see a positive risk/reward skew in darigabat with key derisking data in 2022

#### **Consensus Rating Distribution**



Source: Refinitiv, Morgan Stanley Research

#### **Risk Reward Themes**

**Disruption:** Positive

View descriptions of Risk Rewards Themes here

Source: Refinitiv, Morgan Stanley Research

#### **BULL CASE**

\$68.00

#### **BASE CASE**

\$50.00

# BEAR CASE

\$3.00

#### DCF

Cerevel is successful in commercializing Darigabat, CVL-231 and Tavapadon with strong update. Our bull case values Darigabat, CVL-231 and Tavapadon launching in 2025, and capture a significant market share.

#### DCF

Cerevel is successful in commercializing Darigabat, Emraclidine and Tavapadon. Our base case values Darigabat (PoS 35%), Emraclidine (PoS60%) and Tavapadon (PoS 55%). Product launches for all three therapies begin in 2025.

### Cash Value/Share

**Darigabat and Tavapadon fail**. Cerevel is unable to commercialize Darigabat and Tavapadon. CERE trades at cash value/share.



# Risk Reward - Cerevel Therapeutics Holdings Inc (CERE.O)

#### **KEY EARNINGS INPUTS**

Drivers	2021	2022e	2023e	2024e
Peak Sales (\$, mm)	3,405	3,405	3,405	3,405

#### **CATALYST CALENDAR**

Date	Event	Source: Refinitiv, Morgan Stanley
Q3 2022	Emraclidine (M4, CVL-231): Ini label safety extension trial in 3	•
01 Nov 2022 - 31 Dec 2022	Emraclidine (M4, CVL-231): 8-v monitoring trial data expected	
01 Nov 2022 - 31 Dec 2022	Emraclidine (M4, CVL-231): Pla Alzheimer's disease psychosis	
H1 2023	CVL-871 (D1): Phlla data in de expected in 1H23.	mentia-related apathy
H1 2023	Tavapadon (D1): PhIII (TEMPO	

#### INVESTMENT DRIVERS

- CVL-231 data in patients with schizophrenia
- Darigabat PhI data for the treatment of anxiety, expected in 4Q21
- Initial PhII data testing Darigabat in patients with epilepsy, expected in 2H22

#### **GLOBAL REVENUE EXPOSURE**



Source: Morgan Stanley Research Estimate View explanation of regional hierarchies <u>here</u>

#### MS ALPHA MODELS

5/5 24 Month	5/5	3 Month
BEST Horizon	most	Horizon

Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

#### **SUSTAINABILITY & ESG**

Indicator of Change	1.00	+1.0 ◆	1.0
Disclosure Rate	24%		

#### RISKS TO PT/RATING

#### **RISKS TO UPSIDE**

- Darigabat demonstrates better-than-expected efficacy for the treatment of epilepsy
- Pipeline success beyond late-stage assets

#### **RISKS TO DOWNSIDE**

- Tavapadon demonstrates inferior efficacy and/or a safety signal causing investors to question the overall value
- CVL-231 demonstrates minimal efficacy for the treatment of schizophrenia
- Delayed timelines or positive data from competitors

#### **OWNERSHIP POSITIONING**

Refinitiv; MSPB Content. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure - Short Exposure).

#### MS ESTIMATES VS. CONSENSUS







(320)





# Risk Reward – Cerevel Therapeutics Holdings Inc (CERE.O)

### SUSTAINABILITY AND ESG

#### INDICATOR OF CHANGE OVER TIME



Governance	Unit	Dec '19	Dec '20	Dec '21
Avg tenure of the board	Years	-	1.86	2.52
Female board members	Percentage	-	22.22%	27.27%
Independent board members	Percentage		88.89%	90.91%
Shares owned by board members	Percentage	-	2.52%	3.16%

Indicator of change chart is plotted using the fiscal aligned methodology. View explanation of 'Indicator of Change' methodology here

Source: Company Data, Morgan Stanley Research

#### **SUMMARY**

### ESG Data/Indicator of Change

In 2021, Key ESG metrics that improved in 2021 were number of female board members and number of independent directors.

Its ESG disclosure rate was 24% in 2021.

#### **HERS**

--- All --- Gov

For gender diversity, Cerevel is ranked in the middle tertile relative to sector and regional peers.

#### SUSTAINABLE SOLUTIONS

Theme	Exposure
Treating Illness	100% (EBITA)
Exposure is presented for top four Sustainabil View explanation of Theme/Exposure method	,

#### HERS VS. SECTOR PEERS



View explanation of HERS methodology <u>here</u>



#### Exhibit 4: Cerevel Income Statement

Cerevel Therapeutics, Inc. Income Statement (SM)	30	18A	2019A	36504	2021A	1022A	ASSDS	3033E	4G22E	2022E	3023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	5435E	\$000E	3034E	3035E
Darigabat (CVL-865) - Epilepsy	5		s .	s .	5 .	5	5 .	1 .		5	s .	s -	5 29	5 59	5 106	s 163	5 233	\$ 309	\$ 410	\$ 503	\$ 539	\$ 555	s 5
CVL-231 - Schizophrenia	5		5 .	5 .	5 .	5 .	5	5 .	5 -	5 .	5 .	5 .	5 141	321	5 653	\$ 990	5 1.160	5 1.172	\$ 1.184	5 1.156	\$ 1,208	5 1.220	5 12
Tayacadon (CVL-751) - Parkinson's									4 .	8 .			\$ 123	191	5 296	5 459	5 709	5 804	\$ 910	5 1.065	\$ 1.170	\$ 1.261	\$ 1.36
OUS Royalty sales (no COGS)														23	\$ 46	\$ 84	\$ 129	\$ 168	\$ 183	\$ 200	\$ 220	\$ 233	\$ 24
Total Revenues (\$M)	5		s .	5 .	5 -	5 -	5 .	5 .	5 -	5 -	5 .	5 -	\$ 293	\$ 602	\$ 1,101	\$ 1,656	\$ 2,231	\$ 2,453	\$ 2,687	\$ 2,563	\$ 3,136	\$ 3,269	\$ 3,40
Costs & Expenses														_									
Cost of Revenues		-											37	72	132	218	284	331	363	399	452	471	490
Cost of Revenues as % of Sales		NM	NM	0.05	N	M 0.09	0.0%	0.0%	0.0%	NM	12,5%	12.5%	12.5%	12.5%	12.5%	12.5%	13.5%	14.5%	14.5%	14.5%	15.5%	15.5%	15.51
Research & Development		114	48	100	15	5 51	68	71	71	261	275	303	333	341	350	350	350	350	360	350	350	350	360
Y/Y R&D Spend Change (%)			-58.0%	109.8%	50.0	4				70.0%	5.4%	5.0%	10%	2.5%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0,09
General & Administrative		7	27	36	4	4 17	15"	17	17	62	71	125	187	243	316	379	417	438	446	455	464	474	400
Y/Y G&A Spend Change (%)			283.1%	31,1%	30.0	4				40.0%	15.0%	75.0%	50%	30.0%	30.0%	20.0%	10.0%	5.0%	2.0%	2.0%	2.0%	2.0%	2.09
Total Costs & Expenses (\$M)		121	75	136	r 19	64	83	88	00	323	346	427	556	656	797	546	1,050	1,118	1,159	1,204	1,266	1.294	1.32
Income (Loss) from Operations (SM)		(\$121)	(\$75)	(\$136	5 (19	1) \$ 154	1) \$ (83)	\$ (88)	5 (84)	(\$323)	(\$346)	(\$427)	(\$263)	(\$54)	\$304	\$750	\$1,181	\$1,335	\$1,528	\$1,749	\$1,870	\$1,975	\$2.002
Interest income, not		. 1	2			0 0	1	- 1	1	- 2	8	. 7	3	.0	.0	3	9	20	32	47	45	86	110
interest expense, not								3	3	. 5	10	10	10	10	5								
Other income (expense).net			0	,		5) 4	2			6													
Income (Loss) Before Provision for Income Taxes		(120)	(74)	(136	(20	3) (60	(90)	(90)	(90)	(320)	(349)	(431)	(270)	(64)	299	752	1,190	1,354	1,560	1,796	1,935	2,061	2,190
Taxon				(6											63	158	250	284	328	377	406	433	460
Tax Rate (%)		0.0%	-0.1%	0.0%		6 0.09	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.01
Non-GAAP Net Income (Loss) (SM)		(\$120)	(74)	(135	(20	3) (60	(80)	(90)	(50)	(\$320)	(\$349)	(\$431)	(\$270)	(\$64)	\$236	\$594	\$940	\$1,070	\$1,233	\$1,419	\$1,529	\$1,628	\$1,732
Non-GAAP EPS	(5	42.80)	(\$1.67)	(\$1.84	(\$1.4	(\$0.4)	(\$0.54)	(\$0.58)	(\$0.57)	(\$2.11)	(\$2.19)	(\$2.66)	(\$1.63)	(\$0.38)	\$1.31	\$3.13	\$4.69	\$5.00	\$5.33	\$5.60	\$5.42	\$5.11	\$4.73
GAAP Net Income (\$M)		(\$116)	(\$120)	(\$152	(\$22	5) (\$61	(\$90)	(\$92)	(\$112)	(\$344)	(\$372)	(\$455)	(\$294)	(\$89)	\$211	\$569	\$915	\$1,045	\$1,207	\$1,393	\$1,503	\$1,602	\$1,700
GAAP EPS	(5	41.23)	(\$2.90)	(52.07	(\$1.6	5) (\$0.46	(\$0.61)	(\$0.60)	(\$0.55)	(52.26)	(\$2.34)	(\$2.80)	(\$1.77)	(\$0.52)	\$1.18	\$2.99	\$4.56	\$4.88	\$5.22	\$5.50	\$5.33	\$5.02	\$4.60
Shares used in computing net income (loss) per share:																				a Paris S			
Basic (GAAP)		2.8	44.2	73.6	136			155.0	157.0	152.1	159.3	162.2	166.0	170.8	179.6	190.1	200.5	213.9	231.1	253.3	262.0	318.9	366.4
Diluted (GAAP)		2.8	44.2	73.6	136	148.0	148.3	155.0	167.0	152.1	159.3	162.2	166.0	170.8	179.6	190.1	200.5	213.9	231.1	253.3	292.0	318.9	366.4

Source: Company Data, Morgan Stanley Research

#### Exhibit 5: Cerevel Balance Sheet

Cerevel Therapeutics, Inc. Balance Sheet (\$M)	2018A	2019A	2020A	2021A	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	2035E
Current assets:																		
Cash and cash equivalents	95	80	384	193	772	648	287	47	6	262	899	1.927	3,158	4.625	6.400	8.446	10.815	13.60
Marketable securities	0	0	0	373	173	0	0	0	0	0	0	0	0	0	0	0	0	
Accounts receivable	0	0	0	0	0	0	0	6	12	22	34	45	49	54	59	63	65	6
Inventory	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Prepaid expenses and other current assets	- 1	8	7	12	0	. 0	0	6	12	22	34	45	49	54	59	63	65	6
Total current assets	96	87	391	578	944	648	287	59	31	306	967	2,016	3,256	4,732	6,519	8,571	10,946	13,74
Marketable securities				52	52	52	52	52	52	52	52	52	52	52	52	52	52	50
Property and equipment, net	0	1	24	28	29	29	30	39	62	109	148	179	201	223	233	244	254	26
Restricted cash	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
Other assets	11	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Operating lease right-of-use assets	0	26	24	23	23	23	23	23	23	23	23	23	23	23	23	23	23	2
Total assets	108	121	445	689	1,056	759	399	180	175	498	1,198	2,278	3,539	5,038	6,834	8,897	11,282	14,08
Current Liabilities:																		
Accounts payable	1	2	- 5	11	12	13	16	19	22	25	27	28	29	29	30	30	30	31
Accrued expenses	1	10	23	29	54	57	71	86	97	110	121	127	131	132	134	135	137	13
Operating lease liabilities	0	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Total current liabilities	3	15	30	43	68	73	89	108	121	137	150	158	162	164	166	168	170	17
Long-term debt	0		0	0	345	345	345	345	345	0	0	0	0	0	0	0	0	
Operating lease liabilities, net of current portion	0	26	31	34	34	34	34	34	34	34	34	34	34	34	34	34	34	3
Other non-current liabilities	5	2	0	34	65	96	127	127	127	127	127	127	127	127	127	127	127	12
Total liabilities	8	43	61	110	512	548	596	614	627	299	312	319	324	325	327	329	331	33
Stockholders' equity:																		
Common stock	0			0	0	0	0	0	0	0	.0	0	0	0	0	0	0	
Additional paid-in capital	216	322	775	1.196	1.505	1.545	1.592	1.648	1,719	2.158	2,276	2.433	2.645	2,936	3,337	3.896	4.677	5,77
Accumulated deficit	(116)	(244)	(391)	(617)	(961)	(1.333)	(1.788)	(2.082)	(2.171)	(1,960)	(1.390)	(475)	570	1.777	3.170	4.673	6.274	7.97
Total stockholders' equity	100	78	385	579	544	212	(196)	(434)	(452)	199	886	1,958	3,215	4,712	6,507	8,568	10,951	13,75
Total liabilities and stockholders' equity	108	121	445	689	1,056	759	399	180	175	498	1,198	2,278	3,539	5,038	6,834	8,897	11,282	14,08

Source: Company Data, Morgan Stanley Research

### Exhibit 6: Cerevel Cash Flow Statement

	2018A	2019A	2020A	2021A	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	2035
Cash Flows from Operating Activities:						1 - marine								43740927				
Net income (loss)	(116)	(128)	(152)	(225)	(344)	(372)	(455)	(294)	(89)	211	569	915	1,045	1,207	1,393	1,503	1,602	1,
Adjustments:																		
Depreciation & amortization expense	0	0	0	3	4	5	5	5	6	9	11	14	16	18	19	21	22	
Acquired in-process research and development	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Non-cash rent expense under operating leases	0	2	(0)	(1)	0	0	0	0	0	0	0	0	0	0	0	0	0	
Stock-based compensation expense	0	8	11	24	23	24	24	24	24	25	25	25	25	26	26	26	26	
Change in fair value of Equity Commitment	(3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Change in fair value of Share Purchase Option	(1)	46	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Change in fair value of financing liabilities	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
Change in fair value of private placement warrents	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	
Write-off of deferred offering costs	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other non-cash items	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Changes in operating assets and liabilities:																		
Prepaid expenses and other current assets	(1)	(7)	0	(5)	12	0	0	(6)	(6)	(10)	(12)	(11)	(4)	(5)	(5)	(4)	(3)	
Accounts receivable	0	0	0	0	0	0	0	(6)	(6)	(10)	(12)	(11)	64)	(5)	(5)	(4)	(3)	
Inventory	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	
Other assets	0	(1)	(1)	(1)	0	0	0	0	0	0	0	0	0	0	0	0	0	
Accounts payable	4		1	7	1	1	3	3	2	3	2	1	1	0		0	0	
Accrued expenses and other current liabilities	4	8	11	9	25	4	13	15	11	14	10	6	3	1	1	2	2	
Operating lease liability	0		7		0		0	0	0	0	0	0		0		0	0	
Net cash provided by (used in) operating activities	(7)	(71)	(118)	(179)	(278)	(339)	(409)	(258)	(57)	241	595	940	1.081	1,243	1,430	1,544	1,647	1
	(0)	(1)	(19)	(11)	(5)	(5)	(5)	(15)	(30)	(55)	(51)	(45)	(37)	(40)	(30)	(31)	(33)	
Purchase of marketable securities Maturities of marketable securities Cash paid for acquisition of assets	0 (11)	0	0	(425) 0 0	200	173 0	0	0	0	0	0	0	0	0	0 0	0	0	
Purchase of marketable securities Asturities of marketable securities Cash paid for acquisition of assets	0	(1) 0 0 0			200	173	0	(15) 0 0 0 (15)		0		0	(37) 0 0 0 0 (37)			0		
Purchase of marketable socurities datunities of marketable socurities 2ash paid for acquisition of assets let cash used in investing activities	0 (11)	0	0	(425) 0 0	200	173 0	0	0	0	0	0	0	0	0	0 0	0	0	
Purchase of markstable securities Maturities of markstable securities Seat paid for acquisition of assets Fet cash used in investing activities Lash flows from financing activities:	0 (11) (11)	0	0	(425) 0 0 (436)	200	173 0	0	0	0	0	0	0	0	0	0 0	0	0	
Purchase of marketable securities disturties of marketable securities 2.3th paid for acquisition of assets let cash used in investing activities 2.3th flows from financing activities: Proceeds from the issuance of common and preferred stock, net of issuance oc	0 (11)	0	(19)	(425) 0 0 (436)	0 200 0 195	173 0	0	0	0	0	0	0	0	0	0 0	0	0	_
Purchase of marketable securities  (Multimise of marketable securities  Leah pad for acquisition of assets  fet cash used for acquisition of assets  fet cash used in investing activities  Lash flows from financing activities:  Pacced Som the issuance of common and preferred stock, net of issuance or  Pacced Som the insurance of common and preferred stock, net of offering costs	0 (11) (11)	0	0	(425) 0 0 (436) 328 (0)	0 200 0 195	173 0	0	0	0	0	0	0	0	0	0 0	0	0	_
Furthas of markstable securities Idustries of markstable securities East) paid for acquisition of assets text cash used in investiga activities Clash from Forum Flancoing, activities: Tracest Stam the sauces of common and preferred stock, ret of issuance or proceeds the Dissinsa Commission Transaction, net of offering costs "proceeds Stom the succine of public variences for proceeds Stom the securice of public variences."	0 (11) (11)	0	(19)	(425) 0 0 (436) 328 (0) 55	0 200 0 195	0 173 0 168	0 0 0 (5)	0	0	0	0	0	0	0	0 0	0	0	
Furthers of properly and expansed Purchase of materials securing Carb ped for acquarters of assets Carb ped for acquarters of assets Karb chain which liverishing activities Cash flows from financing activities Cash flows for financing activities Cash flows for financing activities Cash flows from financing activities Cash flows flows from financing activities Cash flows flows from financing Cash flows from fin	0 (11) (11)	0	(19)	(425) 0 0 (436) 328 (0) 55 15.63	0 200 0 195	0 173 0 168	0 0 0 (5)	0	0	0	0	0	0	0	0 0	0	0	
Furthers of maketable sociaties  distanties of maketable sociaties  distanties of maketable sociaties  further of the sociaties  for cash used for maketable sociaties  for cash force from financing activities  cash flows from financing activities  proceeds from financing activities  received from financing activities  activities activities activities activities  received from financing activities  activities activities activities  activities activities activities  activities activities activities  activi	0 (11) (11)	0	0 0 (19)	(425) 0 0 (436) 328 (0) 55 15.63 15.63	0 200 0 195	0 173 0 168 0 0 0 0 16 16	0 0 0 (5)	0	0	0	0	0 0 0 (45)	0	0	0 0	0	0	
vurbase of maintable socuries  and part of acquisition of assets  and part of acquisition of assets  and part of acquisition of assets  can be part of acquisition of assets  and flower form financing activities  and flower form financing activities  control and preferred stack, net of insurance or common and preferred stack, net of insurance or common and preferred stack, net of insurance or control form financing control form financing control form financing patholicy insurance or place.  To control form financing patholicy insurance or place or part of the part	0 (11) (11)	0	(19)	(425) 0 0 (436) 328 (0) 55 15.63	0 200 0 195	0 173 0 168 0 0 0 16 16 16	0 0 0 0 0 0 0 0 16 16 16	0 0 0 (15)	(30) 0 0 0 0 0 0 0	0 0 0 (55)	0 0 0 (51)	(45) 0 0 0 0 0 0 0	(37) 0 0 0 0 0 0	0 0 0 (40)	(30)	(31) 0 0 0 0 0 0 0	(33) 0 0 0 0 0 0	
Furthers of maintable sociaties distincted indisables sociaties and part for expansion of assets and forest form financing activities and forest form financing activities and part for expansion of assets and a	0 (11) (11)	0	0 0 (19)	(425) 0 0 (436) 328 (0) 55 15.63 15.63	0 200 0 195 0 0 0 16 16 16 0 285	0 173 0 168 0 0 0 16 16 16 0	0 0 0 0 0 0 0 16 16 16 0 23	0 0 0 (15)	0 0 (30)	0 0 0 (55)	0	0 0 0 (45)	0 0 0 (37)	0 0 0 (40)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 755	
Furchase of maketable securies  (Martines of maketable securies  Martines of maketable securies  Het cash water of maketable securies  Het cash water of maketable securies  Het cash water of maketable securies  Fucceeds from Benser Combinator Transaction, net of misuance or  Funceeds from Benser Combinator Transaction, net of desire costs  Funceeds from the exercise of palific unwerse  Funceeds from Transaction palities  Funceed from Transaction of Transaction palities  Funceed from Transaction of Transaction palities  Funceed from	0 0 (11) (11) (11)	(1) 60 0 0 0	0 0 (19) 0 443 0 0 0 (2)	(425) 0 0 (436) 328 (0) 55 15.63 15.63 (0) 9	0 200 0 195 0 0 0 16 16 16 0 285 345	0 173 0 168 0 0 0 16 16 16 0	0 0 0 0 0 0 0 16 16 0 23	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 415 (345)	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 132	0 0 0 0 0 0 0 0 0 0 0 187	0 0 0 (40)	(30) (30) 0 0 0 0 0 0 376	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 755	
Furthers of maintable sociations  distincts of maintable sociations  distincts of maintable sociations  distincts of maintable sociations  let cach used in investiga activities  can fown from familiary activities.  The cach flow from familiary activities  received from the security activities.  The cache form familiary contribution Transaction, not of dening costs  received from familiary Combination Transaction, not of dening costs  received from familiary solities  proceeds from familiary distributions  dening the combination of  proceeds from familiary distributions  dening the combination of  proceeds  procee	0 (11) (11)	0	0 0 (19)	(425) 0 0 (436) 328 (0) 55 15.63 15.63	0 200 0 195 0 0 0 16 16 16 0 285	0 173 0 168 0 0 0 16 16 16 0	0 0 0 0 0 0 0 16 16 16 0 23	0 0 0 (15)	0 0 (30)	0 0 0 (55)	0 0 0 (51)	0 0 0 (45)	0 0 0 (37)	0 0 0 (40)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 (33) 0 0 0 0 0 0 0 755	
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Source: Company Data, Morgan Stanley Research

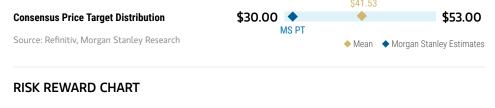


# Risk Reward - Genmab A/S (GMAB.O)

Risk-reward skewed to the downside

#### PRICE TARGET \$31.00

Our PT is derived from a DCF through 2035E that uses a 10% discount rate and 2% terminal growth rate. The revenue drivers in our model are Darzalex, next gen CD38 GEN3014, epcoritamab, Kesimpta, Tepezza, and other early-stage, proprietary products.

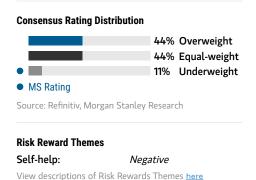




Source: Refinitiv, Morgan Stanley Research

#### **UNDERWEIGHT THESIS**

- Our Underweight thesis is based on Genmab's current valuation, which we believe is reflecting bull case outcomes for three key stock drivers - HexaBody-CD38 (GEN3014), GEN1046 (DuoBody PD-L1×4-1BB) and GEN1042 (DuoBody-CD40x4-1BB3)
- We expect additional data presentations for GEN1046 (DuoBody-PD-L1x4-1BB3), GEN1042 (DuoBody-CD40x4-1BB3), and GEN3014 (CD38) data in 2H22 will be encouraging, but in-line with Street expectations.



BULL CASE \$48.00 BASE CASE \$31.00 BEAR CASE \$10.00

DCF DCF DCF

Upside Darzalex uptake, greater success of partnered products, and higher risk-adjusted value for the pipeline: We assume 2030E peak sales of Darzalex of DKK ~18.8B. For partnered pipeline assets, we model peak revenue attributable to Genmab at DKK ~17B for epcoritamab, and DKK ~7B for tisotumab. We estimate PD-L1x4-1BB has the potential to be a DKK ~2.5B asset risk-adjusted. We project next gen CD38 asset GEN3014 to reach peak sales of DKK ~5B in 2035 with 65% POS.

Continued robust Darzalex uptake, success of partnered products, and risk-adjusted value for the proprietary pipeline: We assume 2030E peak sales of Darzalex of DKK ~18B. For partnered pipeline assets, we model peak revenue attributable to Genmab at DKK ~11B for epcoritamab, and DKK ~3.3B for tisotumab. We estimate PD-L1x4-1BB has the potential to be a risk-adjusted DKK ~2B asset. We project next gen CD38 asset GEN3014 to reach peak sales of DKK ~4B in 2035 with 65% POS.

Limited royalties from epcoritamab and tisotumab. CD38 GEN3014 failed to commercialize: In our bear case we model peak revenue attributable to Genmab at DKK ~4.6B for epcoritamab, and DKK ~953M for tisotumab. Pipeline assets failure. We further assume greater competition in the out-years from biosimilars and cell therapies for MM than our base case.



# Risk Reward - Genmab A/S (GMAB.O)

#### **KEY EARNINGS INPUTS**

Drivers	2021	2022e	2023e	2024e
Topline 3-Yr CAGR (%)	31.9	24.5	17.9	15.8
Bottom Line 3-Yr CAGR (%)	34.1	29.6	24.9	22.8

#### **CATALYST CALENDAR**

Date	Event	Source: Refinitiv, Morgan Stanley
H2 2022	GEN1046/BNT311 (DuoBody-PI PhII study in R/R NSCLC	D-L1x4-1BB): Data update of
H2 2022	Epcoritamab (CD3xCD20) - Data DLBCL, R/R FL and R/R CLL; filin	•
H2 2022	GEN3014 (CD38) dose-escalation	on data
H2 2022	GEN1042/BNT312 (DuoBody-Cl readout of PhII study in NSCLC,	,
H2 2022	DuoHexaBody-CD37 initial Phas	se 1 data in B-cell lymphoma

#### INVESTMENT DRIVERS

- Uptake of tisotumab vedotin in cervical cancer
- Approval and uptake of epcoritamab in DLBCL/FL
- Uptake of Tepezza and Kesimpta in TED and MS
- Continued growth of Darzalex royalties
- CD38 (GEN3014), GEN1046 (PD-L1×4-1BB) and GEN1042 (CD40x4-1BB3) readout.

#### **GLOBAL REVENUE EXPOSURE**



Source: Morgan Stanley Research Estimate View explanation of regional hierarchies <u>here</u>

#### **SUSTAINABILITY & ESG**

	+1.0	-1.0
Indicator of Change	-0.12	•
Disclosure Rate	29%	

#### **RISKS TO PT/RATING**

#### **RISKS TO UPSIDE**

- Pipeline assets exceed current projections
- DuoBody-PD-1x4-1BB and epcoritamab data could exceed expectations

#### RISKS TO DOWNSIDE

- Darzalex could face greater competition and not meet consensus expectations
- Epcoritamab could show unexpected safety signals, or inferiority to competitive assets in PhIII investigations
- Early-stage assets (e.g., next gen. CD38 GEN3014) could fail

#### **OWNERSHIP POSITIONING**

Inst. Owners, % Active	76.2%	
HF Sector Long/Short Ratio	2.1x	
HF Sector Net Exposure	20.1%	

Refinitiv; MSPB Content. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure - Short Exposure).

#### MS ESTIMATES VS. CONSENSUS





# Risk Reward - Genmab A/S (GMAB.O)

### SUSTAINABILITY AND ESG

#### INDICATOR OF CHANGE OVER TIME



Social	Unit	Dec '19	Dec '20	Dec '21
Employee turnover	Percentage	8%	8%	6%
Governance				
Avg tenure of the board	Years	4.94	4.75	6.24
Female board members	Percentage	33.33%	44.44%	50.00%
Independent board members	Percentage	55.56%	55.56%	50.00%
Shares owned by board members	Percentage	0.08%	0.03%	-

Indicator of change chart is plotted using the fiscal aligned methodology. View explanation of 'Indicator of Change' methodology here

Source: Company Data, Morgan Stanley Research

#### **SUMMARY**

--- All --- Gov

Genmab is in the top tertile for workforce gender diversity relative to regional sector peers. Female representation on the board has been increasing since 2015. The company is in the first (most favored) quartile in indicators of change versus peers.

The Morgan Stanley Indicator of Change metric which was -0.12 (deteriorating) is designed to provide a quick snapshot of whether a company's ESG data is improving or deteriorating year on year.

Its ESG disclosure rate was 29% in 2021.

#### SUSTAINABLE SOLUTIONS

Theme	Exposure
Treating Illness	100% (EBITA)
Exposure is presented for top four Sustainability View explanation of Theme/Exposure methodolo	

#### HERS VS. SECTOR PEERS

1st	
Top Tertile for workfor	ce gender diversity relative to regional

ector peers

View explanation of HERS methodology  $\underline{\text{here}}$ 



#### Exhibit 7: Genmab Income Statement



Source: Company Data, Morgan Stanley Research

#### Exhibit 8: Genmab Balance Sheet

	2016	2017	2018	2019	2020	2021	2022E	2023E	2024E	20255	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	2035E
Intangible assets	181.9	124.4	470.4	470	338	236	267	310	346	350	342	341	348	262	297	522	779	1,169	1,767	2,31
Property, plant, and equipment	32.2	113.4	161.5	237	453	12	13	17	25	30	31	31	29	27	19	25	44	66	94	12
Right-of-use assets	0.0	0.0	0.0	177	283	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
Non-current receivables	1.5	8.8	9.6	11	20															
Deferred tax assets	125.0	296.9	286.4	129	177	252	252	252	252	252	252	252	252	252	252	252	252	252	252	21
Inventories.	0.0	0.0	0.0																	
Other investments			0.0	149	1,091	1,338	1,338	1,228	1,338	1,338	1,338	1,338	1,228	1,338	1,338	1,338	1,228	1,338	1,338	1,33
Total Non-Current Assets	240.6	543.5	1,029.0	1,183	2,352	1,859	1,890	1,936	1,980	1,990	1,984	1,982	1,987	2,000	2,016	2,157	2,433	2,845	3,412	4,01
Current receivables	975.7	579.0	1326.9	2,990	2,463	3,266	3,266	3,266	3,266	3,266	3,266	3,266	3,266	3,266	3,266	3,266	3,266	3,266	3,266	3,20
Corporate tax receivables	0.0	57.7	0.0		249	39	29	29	39	39	29	29	29	39	29	29	29	39	39	
Marketable securities	2014.9	4075.2	5573.2	7,419	8,819	10,381	12,418	13,549	14,802	16,176	17,733	19,543	21,588	23,921	26,533	29,491	32,503	35,607	28,799	42,0
Cash and cash equivalents	207.0	1347.5	532.9	3,552	7,260	8,792	11,593	17,658	23,695	32,849	45,465	57,292	71,624	85,608	102,403	106,090	110,227	114,574	119,598	125,3
Total Current Assets	4,897.6	6,059.4	7,433.0	13,961	19,791	22,469	27,306	24,512	41,803	52,330	66,504	80,130	96,517	112,834	132,241	128,876	146,035	153,486	161,702	170,71
Total Assets	5,228.2	6,602.9	8.461.0	15,144	21.142	24,328	29,199	26.649	42.782	54,320	58.497	82,111	99,504	114.824	124,258	141,022	149,467	156.331	165,114	174.83
Share capital	60.4	61.2	61.5	45	- 66	- 66	66	66	66	66	66	99	66	66	66	66	66	66	66	
Share premium	7769.6	7983.7	8058.6	11.755	11,894	12,029	12.029	12.029	12.030	12.030	12.030	12.030	12.030	12.030	12.030	12.030	12,030	12.030	12.030	12.0
Other reserves	102.9	82.1	91.7	94	54	81	149	197	231	254	270	292	290	295	299	202	204	305	206	
Retained Earnings / (Accumulated deficit)	-9109.1	-1954.7	-197.5	2,130	7.107	10.020	14.819	22.024	29.325	29.626	53.989	67.602	82.987	100.311	119.721	126,503	122,926	141.798	150,580	190.31
Total Shareholders' Equity	4.826.7	6.272.2	8.014.4	14,048	19.121	22,199	27.064	24.217	41.651	52,188	66.255	79.979	96.272	112,702	122,126	128,999	146,225	154,199	162,982	172.72
Non-Current Provisions	0.0	1.2	1.4	2	4	- 6	- 6	- 6	6	6	- 6	- 6	- 6	6	- 6	- 6	- 6	6	6	
Non-current lease Sabilities	0.0	0.0	0.0	155	277															
Other non-current payables	0.0	2.4	1.9	1	1															
Long Term Debt	0.0	0.0	0.0																	
Deferred revenue	0.0	0.0	0.0	0.0	487.0	497.0	497	487	487	497	497	497	487	497	497	497	487	497	497	
Total Non-Current Liabilities	0.0	2.6	2.2	159.0	769.0	493.0	492.0	492.0	492.0	493.0	493.0	492.0	492.0	493.0	493.0	492.0	492.0	493.0	493.0	493
Current Provisions	1.4	0.0	0.0		-		-	-	-	-	-	-	-	-	-	-	-	-	-	
Corporate tax gavable	61.6	0.0	127.0	72																
Current lease liabilities	0.0	0.0	0.0	26	42	- 11	11	11	11	11	11	11	11	11	11	11	11	11	11	
Other current payables	120.3	176.5	216.4	829	1.185	1.602	1.602	1.602	1.602	1.602	1.602	1.602	1.602	1.602	1.602	1.602	1.602	1.602	1.602	1.0
Deferred income	228.2	150.6	0.0		26	26	26	26	26	26	26	24	26	26	26	26	26	26	26	- 1
Current portion of LT Debt	0.0	0.0	0.0																	
Total Current Liabilities	411.5	327.1	442.2	928	1.253	1.629	1.629	1.629	1.629	1.629	1.629	1.629	1.629	1.639	1.629	1.629	1.629	1.629	1.629	1.63
Total Liabilities	411.5	220.0	446.6	1.096	2.022	2,132	2,122	2,122	2.132	2.132	2,122	2,122	2,122	2.122	2,122	2,122	2,122	2.132	2,122	2.11
Total Shareholders' Equity and Liabilities	5,228.2	6,602.9	8.461.0	15,144	21,142	24,328	29,199	26,449	42.782	54,320	58,487	82,111	99,504	114.824	124,259	141,022	149,467	159.331	165,114	174.93

Source: Company Data, Morgan Stanley Research

Exhibit 9: Genmab Cash Flow Statement

'Historicals may vary due to FX adjustments	2016	2017	2018	2019	2020	2021	20225	20235	2024E	2025E	20266	2027E	20205	20236	20306	2031E	20325	20336	2034E	20356
Cash and cash equivalents at beginning of period	874.0	307.0	1347.5	532.9	3552.0	7260.0	8,783	11,583	17,658	23,695	22,849	45,465	57,282	71,624	85,608	102,403	106,090	110,227	114,574	119,598
Pretax Income	1130.2	1063.7	1612.0	2971.5	5904.0	3,983.0	4,799	7,205	7,301	10,513	14,151	13,613	16,385	16,324	19,420	6,772	7,433	7,862	8,792	9,726
Reversal of financial items, net	-77.4	280.5	-231.7	-221.0	409.0	(1,356.0)	(1,137)	(232)	(353)	(474)	(657)	(909)	(1,149)	(1,432)	(1,712)	(2,048)	(2,122)	(2,205)	(2,291)	(2,392
Adjustments for non-cash transactions	94.2	145.9	179.6	291.0	459.0	1,029.0	214	227	263	327	375	409	429	474	518	445	367	293	207	166
Changes in working capital	-858.9	239.6	-634.4	-1218.0	987.0	(1,024.0)														
Cash flow from operating activities before financial items	288.2	1,729.7	924.5	1,723.5	7,759.0	2,632.0	3,876	7,200	7,211	10,367	13,869	13,110	15,678	15,345	18,225	5,169	5,678	5,951	6,697	7,514
Financial interest received	23.9	42.9	44.3	111.0	170.0	207.0														
Financial expenses paid	-0.2	-2.8	-0.4	-12.0	-20.0															
Corporate taxes received (paid)	5.9	-180.9	46.4	476.0	-1479.0	(739.0)														
Interest elements of lease payments	0.0	0.0	0.0	-7.0	0.0															
Cash flow from operating activities	227.7	1,589.0	1,014.8	1,339.5	6,433.0	2,100.0	2,879	7,200	7,211	10,367	13,869	12,110	15,478	15,345	18,225	5,169	5,678	5,851	6,697	7,514
Investments in intangible assets	(20.9)		(405.7)	(32.0)			(234)	(258)	(284)	(212)	(343)	(277)	(415)	(457)	(502)	(553)	(608)	(669)	(725)	(80)
Investments in tangible assets	(12.3)	(88.5)	(71.7)	(79.0)	(307.0)	(7.0)	(11)	(16)	(24)	(25)	(26)	(27)	(29)	(20)	(32)	(33)	(25)	(27)	(28)	(4
Marketable securities bought	(2,008.5)	(3,425.0)	(3,521.2)	(5,812.0)	(12,414.0)	(15,532.0)	(15,532)	(15,532)	(15,532)	(15,532)	(15,532)	(15,532)	(15,532)	(15,532)	(15,532)	(15,532)	(15,532)	(15,532)	(15,532)	(15,53
Marketable securities sold	2,027.1	2,846.0	2,221.0	3,940.0	10,370.0	14,632.0	14,632	14,632	14,632	14,632	14,632	14,632	14,632	14,632	14,632	14,632	14,632	14,632	14,692	14,633
Cash flow from investing activities	(1,014.5)	(667.6)	(1,777.6)	(1,983.0)	(2,351.0)	(907.0)	(1,145)	(1,174)	(1,207)	(1,227)	(1,269)	(1,305)	(1,344)	(1,287)	(1,434)	(1,496)	(1,542)	(1,605)	(1,674)	(1,74)
Warrants exercised	208.6	214.1	75.0	65.0	140.0	135.0	68	48	22	23	16	11			4		2	1	1	
Shares issued for cash	0.8	0.8	0.3	2.625.0			0	0		0	0	0	0		0	0	0			
Prinicpal elements of lease payments	(0.1)			(31.0)	(64.0)	(13.0)														
Purchase of treasury shares	(118.1)		(146.2)			(447.0)														
Payment of withholding taxes for EEs on net settled RSU				(9.0)	(25.0)	(50.0)														
Cash flow from financing activities	91.2	214.9	(70.9)	3,660.0	71.0	(275.0)	69	49	34	23	16	11		- 4	4		2	1	1	
Change in cash and cash equivalents	(595.6)	1,136.3	(833.7)	3,015.5	4,153.0	818.0	2,800	6,075	6,037	9,153	12,617	11,817	14,342	13,984	16,795	3,696	4,137	4,347	5,024	5,76
Eachange rate adjustments	28.7	-95.0	19.0	3.6	-645.0	705.0														
Cash and cash equivalents at end of period	207.0	1,347.5	532.9	3,552.0	7,260.0	8,782.0	11,583	17,658	23,695	22,849	45,465	57,282	71,626	85,608	102,403	106,090	110,227	114,574	119,598	125,36

Source: Company Data, Morgan Stanley Research



# Global Blood Therapeutics (GBT)

Exhibit 10: GBT Income Statement

Global Blood Therapeutics, Inc.	2018A	2019A	2020A	2021Δ	1Q22A	2Q22A	3Q22E	4022F	2022F	2023E	2024E	2025E	2026F	2027E	2028F	2029F	2030E	2031E	2032E	2033E
Global Blood Metapediles, Inc.	20104	20104	202001	LULIA	IGELA	LULLA	JULLE	TULLE	LULLE	LULUL	LULTE	LULUL	LULUL	LULIL	LULUL	LULUL	LUUUL	20012	LUULL	LUUUL
Product sales	0.0	2.1	123.8	194.7	55.2	71.6	77.0	86.0	289.7	434.7	541.1	628.8	657.3	694.5	722.4	764.8	797.0	804.6	798.9	810.4
Revenue	0.0	2.1	123.8	194.7	55.2	71.6	77.0	86.0	289.7	434.7	541.1	628.8	657.3	694.5	722.4	764.8	797.0	804.6	798.9	810.4
Costs and expenses																				
Cost of sales		0.0	2.0	3.3	1.1	1.4	3.1	3.1	8.7	28.6	50.4	58.3	60.5	64.0	66.5	70.5	73.4	73.9	73.2	74.4
Research and development	131.3	174.6	155.1	212.1	52.8	64.8	63.2	63.2	244.0	256.2	269.0	282.4	296.5	266.9	240.2	216.2	194.6	175.1	179.5	184.0
SG&A	51.4	117.1	209.9	267.0	74.5	81.1	78.4	78.4	312.4	328.0	344.4	361.6	365.2	368.9	372.6	376.3	380.1	383.9	387.7	391.6
Legal expeses_																				
Related Party Expenses		(8.3)																		
Total operating expenses	182.7	283.3	365.0	479.1	127.4	145.9	141.6	141.6	556.3	584.1	613.4	644.0	661.8	635.8	612.8	592.5	574.6	559.0	567.2	575.5
Operating income (Loss)	(182.7)	(281.3)	(243.2)	(287.7)	(73.3)	(75.7)	(67.7)	(58.6)	(275.3)	(178.1)	(122.7)	(73.6)	(65.0)	(5.3)	43.1	101.8	149.1	171.8	158.5	160.4
Change in fair value of Series A redeemable conv	vertible preferre	d stock liabil	itv																	
Interest Income	8.6	14.7	2.9	(3.7)	0.5	1.7	(2.9)	(2.9) 7.8	(3.7)	(3.7)	(3.7)	(3.7)	(3.7)	(3.7)	(3.7)	(3.7)	(3.7)	(3.7)	(3.7)	(3.7)
Other income (expense)	(0.1)	(0.2)	(7.3)	(11.9)	(8.5)	(8.2)	(3.0)	7.8	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)	(11.9)
Net income (loss) and comprehensive loss	(174.2)	(266.8)	(247.6)	(303.3)	(81.3)	(82.3)	(73.6)	(53.8)	(290.9)	(193.7)	(138.3)	(89.2)	(80.6)	(20.9)	27.5	86.2	133.5	156.2	142.9	144.8
Income Taxes (expense) benefit					(0.2)	(0.2)									(6.1)	(19.0)	(29.4)	(34.4)	(31.4)	(31.9)
Tax Rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%
Net Income (Loss) comprehensive	(174.2)	(266.8)	(247.6)	(303.3)	(81.4)	(82.5)	(73.6)	(53.8)	(290.9)	(193.7)	(138.3)	(89.2)	(80.6)	(20.9)	21.5	67.2	104.1	121.8	111.5	112.9
GAAP EPS	(\$3.41)	(\$4.57)	(\$4.04)	(\$4.82)	(\$1.26)	(\$1.26)	(\$0.98)	(\$0.98)	(\$4.50)	(\$2.97)	(\$2.10)	(\$1.34)	(\$1.21)	(\$0.31)	\$0.30	\$0.94	\$1.45	\$1.70	\$1.55	\$1.56
	l																			
Basic Shares Outstanding	51.2	58.3 58.3	61.3	63.0	64.8	65.6	64.6	64.6	64.6	65.3	65.8	66.3	66.8	67.2	67.6	67.9	68.2	68.4	68.6	68.8
Diluted Shares Outstanding	51.2	58.3	61.3	63.0	64.8	65.6	64.6	64.6	64.6	65.3	65.8	66.3	66.8	67.2	70.9	71.3	71.6	71.8	72.1	72.3

Source: Company Data, Morgan Stanley Research

Exhibit 11: GBT Balance Sheet

Global Blood Therapeutics, Inc.	2018	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
Cash and ST Investments:	477.5	610.0	560.9	684.7	710.9	614.3	580.1	600.5	638.0	724.7	858.6	1.038.2	1,259.4	1,503.7	1,745.9	1.985.9
Cash	275.4	302.2	494.8	684.7	710.9	614.3	580.1	600.5	638.0	724.7	858.6	1.038.2	1.259.4	1.503.7	1.745.9	1.985.9
Marketable securities	202.2	307.7	66.1	-	-	-	-	-	-	-	-	-		-		-
Accounts receivable, net	-	2.6	17.5	28.8	29.0	43.5	54.1	62.9	65.7	69.4	72.2	76.5	79.7	80.5	79.9	81.0
Inventories	-	1.3	40.2	58.2	2.2	7.2	12.6	14.6	15.1	16.0	16.6	17.6	18.3	18.5	18.3	18.6
Prepaid expenses and other current assets	8.2	14.1	13.5	30.3	14.5	21.7	27.1	31.4	32.9	34.7	36.1	38.2	39.9	40.2	39.9	40.5
Total current assets	485.8	628.0	632.2	802.0	756.6	686.6	673.8	709.4	751.8	844.9	963.5	1,170.5	1,397.3	1,642.8	1,884.0	2,126.1
Property and equipment, net	15.0	27.1	37.9	34.9	28.4	23.0	18.8	17.9	18.7	19.5	20.4	21.5	22.6	26.0	31.9	40.2
Restricted Cash	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Long-term marketable securities	114.3	85.0	-	50	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1
Fair value of convertible preferred stock option	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other assets	0.2	53.6	51.5	49.8	5.8	8.7	10.8	12.6	13.1	13.9	14.4	15.3	15.9	16.1	16.0	16.2
Total Assets	617.6	796.1	724.0	939.2	843.3	770.8	756.0	792.4	836.1	930.8	1,070.9	1,259.8	1,488.4	1,737.4	1,984.4	2,235.0
Current liabilities:																
Accounts payable	6.0	106	19.1	15.1	55.6	58.4	613	64.4	66.2	63.6	61.3	59.2	57.5	55.9	56.7	57.6
Payable due to related party	0.0	10.0	10.1	10.1	30.0	30.4	01.3	04.4	00.2	00.0	01.3	30.2	37.3	30.5	30.7	JV.0
Accused liabilities	268	58.9	31.1	39.3	83.4	876	92.0	96.6	99.3	95.4	919	88.9	86.2	83.8	85.1	86.3
Series A redeemable convertible preferred stock liability	200	00.0	01	00.0	00.4	07.0	52.0	50.0	55.5	55.4	51.5	00.0	001	00.0		00.0
Other current liabilities	0.9	1.9	28.8	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6
Total current liabilities	33.8	71.5	79.0	88.0	172.7	179.6	186.9	194.6	199.0	192.5	186.8	181.7	177.3	173.3	175.4	177.5
Other long-term lishilities	11.1	146.0	228.8	654.8	654.8	654.8	654.8	654.8	654.8	654.8	654.8	654.8	654.8	654.8	654.8	654.8
Total liabilities	44.8	217.4	307.8	742.8	827.5	834.4	841.7	849.4	853.8	847.3	841.6	836.5	832.1	828.1	830.2	832.3
Total liabilities	44.0	217.4	307.0	142.0	021.0	034.4	041.7	045.4	033.0	047.3	041.0	030.3	032.1	020.1	630.2	632.3
Stockholders' equity:																
Convertible preferred stock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Common stock	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Additional paid-in capital	1,044.9	1,316.8	1,402.3	1,485.8	1,596.1	1,710.3	1,826.5	1,944.4	2,064.2	2,186.3	2,310.8	2,437.4	2,566.4	2,697.6	2,831.0	2,966.6
Accumulated other comprehensive income(loss)	(0.0)	0.8	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Accumulated deficit	(472.2)	(738.9)	(986.5)	(1,289.6)	(1,580.4)	(1,774.1)	(1,912.4)	(2,001.6)	(2,082.2)	(2,103.1)	(2,081.6)	(2,014.4)	(1,910.3)	(1,788.4)	(1,677.0)	(1,564.0)
Total stockholders' equity	572.8	578.7	416.2	196.4	15.8	(63.6)	(85.7)	(57.1)	(17.8)	83.4	229.3	423.3	656.3	909.3	1,154.2	1,402.7
Total Liabilities and Stockholders' Equity	617.6	796.1	724.0	939.2	843.3	770.8	756.0	792.4	836.1	930.8	1,070.9	1,259.8	1,488.4	1,737.4	1,984.4	2,235.0

Source: Company Data, Morgan Stanley Research

Exhibit 12: GBT Cash Flow Statement

Global Blood Therapeutics, Inc. Cash Flows From Operating Activities	2018	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
Casil Flows From Operating Activities																
Net loss	(174.2)	(266.8)	(247.6)	(303.1)	(290.9)	(193.7)	(138.3)	(89.2)	(80.6)	(20.9)	21.5	67.2	104.1	121.8	111.5	112.9
Adjustments to reconcile net loss to net cash used in ope																
Depreciation and Amortization	3.9	7.9	10.9	8.8	12.7	12.2	11.3	8.6	7.5	7.9	8.5	9.0	9.6	8.1	6.5	4.7
Loss of disposal of fixed assets	0.0															
Share-based compensation	30.1	45.7	71.5	78.7	81.0	83.5	86.0	88.5	91.2	93.9	96.8	99.7	102.6	105.7	108.9	112.2
Non-cash expense in connection with equity issuances	-	0.0	1.5	1.2	-	-	-	-	-	-	-	-	-	-	-	-
Remeasurement of Series A redeemable convertible prefe Fair value of stock issued for license	-	(8.3)	(1.0)	-	-	-	-	-	-	-	-	-	-	-	-	-
Fair value of stock issued for license		(8.3)	(1.0)	-												
Changes in operating assets and liabilities:																
Accounts receivable, net	-	(2.6)	(14.9)	(11.3)	(0.2)	(14.5)	(10.6)	(8.8)	(2.8)	(3.7)	(2.8)	(4.2)	(3.2)	(0.8)	0.6	(1.1)
Inventories	-	(1.3)	(36.8)	(16.1)	56.0°	(5.0)	(5.5)	(2.0)	(0.5)	(0.9)	(0.6)	(1.0)	(0.7)	(0.1)	0.2	(0.3)
Prepaid expenses and other assets	(3.8)	(5.2)	(0.7)	(17.7)	59.8	(10.1)	(7.4)	(6.1)	(2.0)	(2.6)	(2.0)	(3.0)	(2.3)	(0.5)	0.4	(0.8)
Accounts payable	(1.3)	4.5	8.4	(3.7)	40.5	2.8	2.9	3.1	1.8	(2.6)	(2.3)	(2.0)	(1.8)	(1.6)	0.8	0.8
Payable due to related party																
Accrued expenses	8.0	24.7	(10.1)	7.6	44.2	4.2	4.4	4.6	2.7	(3.9)	(3.4)	(3.0)	(2.7)	(2.3)	1.2	1.3
Accrued compensation	1.5	7.5	6.4	3.7												
Other current liabilities	0.7	(1.5)	(0.6)	(0.0)	-	-	-	-	-	-	-	-	-	-	-	-
Other noncurrent liabilities  Net cash used in operating activities	(0.4)	(194,4)	(211.9)	(4.8)	3.3	(120.7)	(878.65	77.00	17.1	67.3		162.6	205.7	230.3	230.0	229.7
Net cash used in operating activities	(135.4)	(194.4)	(211.9)	(230.0)	3.3	(120.7)	(57.3)	(1.2)	17.1	67.3	115.6	102.0	205.7	230.3	230.0	229.1
Cash Flows From Investing Activities																
Purchase of marketable securities	(179.4)	(73.4)	326.1	15.3	-	-	-	-	-	-	-	-	-	-	-	-
Purchase of cost-method investment			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Increase in restricted cash																
Purchases of property and equipment	(4.7)	(3.4)	(8.8)	(3.2)	(6.3)	(6.7)	(7.2)	(7.7)	(8.2)	(8.8)	(9.4)	(10.1)	(10.8)	(11.5)	(12.3)	(13.1)
Net cash used in investing activities	(184.2)	(76.9)	317.3	12.1	(6.3)	(6.7)	(7.2)	(7.7)	(8.2)	(8.8)	(9.4)	(10.1)	(10.8)	(11.5)	(12.3)	(13.1)
Cash Flows From Financing Activities																
Proceeds from issuance of common stock	396.5	219.4	-	46.1	-	-	-	-	-	-	-	-	-	-	-	-
Proceeds from issuance of convertible preferred stock, ne	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Proceeds from issuance of debt	-	64.9	74.8	431.1	-	-	-	-	-	-	-	-	-	-	-	-
Proceeds from issuance of restricted stock awards	(0.0)	13.9	17.6	7.0	-	-	-	-	-	-	-	-	-	-	-	-
Tax benefit from options	(6.3)	-	(5.3)	(3.1)	9.8	10.3	10.2	9.8	9.6	9.5	9.3	9.1	8.8	8.6	8.2	7.9
Proceeds from exercise of stock options, warrants	7.7			(46.8)	19.4	20.4	20.1	19.5	19.0	18.7	18.4	18.0	17.5	16.9	16.3	15.5
Net cash provided by financing activities	397.9	298.2	87.1	434.3	29.2	30.8	30.2	29.3	28.6	28.2	27.7	27.0	26.3	25.5	24.5	23.4
Net (decrease) increase in cash and cash equivalents	78.4	26.9	192.6	190.0	26.2	(96.6)	(34.2)	20.4	37.6	86.7	133.8	179.6	221.2	244.3	242.2	240.0
Cash and cash equivalents at beginning of period	199.4	277.8	304.6	497.2	687.2	713.4	616.7	582.5	602.9	640.5	727.2	861.0	1.040.6	1.261.8	1.506.1	1.748.3
Cash and cash equivalents at beginning or period	277.8	304.6	497.2	687.2	713.4	616.7	582.5	602.9	640.5	727.2	861.0	1.040.6	1,261.8	1,506.1	1,748.3	1,988.3
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Source: Company Data, Morgan Stanley Research

Morgan Stanley is acting as financial advisor to Pfizer Inc. ("Pfizer") in relation to its definitive agreement to acquire Global Blood Therapeutics Inc. ("Global Blood"), as announced on August 8, 2022. The proposed acquisition is subject to customary closing



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Morgan Stanley & Co. LLC makes a market in the securities of Acadia Pharmaceuticals Inc, Adagio Therapeutics, Inc, ADC Therapeutics SA, Akero



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#### **Global Stock Ratings Distribution**

(as of July 31, 2022)

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	COVERAGE U	NIVERSE	INVESTMEN	IT BANKING CLI	ENTS (IBC)	OTHER MA	TERIAL
						INVESTMENT	SERVICES
						CLIENTS (	MISC)
STOCK RATING	COUNT	% OF	COUNT	% OF	% OF	COUNT	% OF
CATEGORY		TOTAL		TOTAL IBC	RATING		TOTAL
					CATEGORY		OTHER
							MISC
Overweight/Buy	1366	39%	318	42%	23%	593	39%
Equal-weight/Hold	1559	44%	357	47%	23%	708	46%
Not-Rated/Hold	0	0%	0	0%	0%	0	0%
Underweight/Sell	613	17%	91	12%	15%	226	15%
TOTAL	3,538		766			1527	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

#### **Analyst Stock Ratings**

Overweight (O). The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Not-Rated (NR). Currently the analyst does not have adequate conviction about the stock's total return relative to the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Underweight (U). The stock's total return is expected to be below the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

#### **Analyst Industry Views**

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.

In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below.



Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below.

Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

#### Stock Price, Price Target and Rating History (See Rating Definitions)

Adagio Therapeutics, Inc (ADGI.O) - As of 8/21/22 in USD Industry : Biotechnology



Stock Rating History: 8/1/17 : NA/I; 8/31/21 : E/I; 11/29/21 : 0/I; 12/14/21 : E/I; 1/6/22 : U/I

Price Target History: 8/31/21 : 33; 11/29/21 : 49; 12/14/21 : 11; 1/6/22 : 6; 5/16/22 : 3

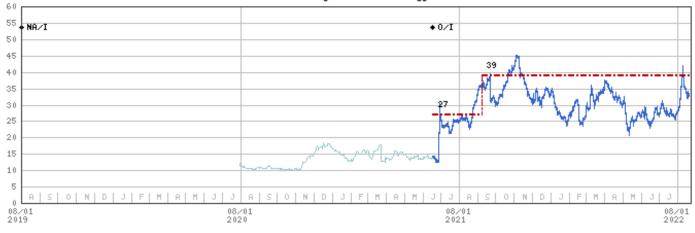
Source: Morgan Stanley Research Date Format : MM/DD/YY Price Target -- No Price Target Assigned (NA)
Stock Price (Not Covered by Current Analyst) -- Stock Price (Covered by Current Analyst) -Stock and Industry Ratings (abbreviations below) appear as + Stock Rating/Industry View

Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)

Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)
Effective January 13, 2014, the stocks covered by Morgan Stanley Asia Pacific will be rated relative to the analyst's industry (or industry team's) coverage.

Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

#### Cerevel Therapeutics Holdings Inc (CERE.O) - As of 8/21/22 in USD Industry : Biotechnology



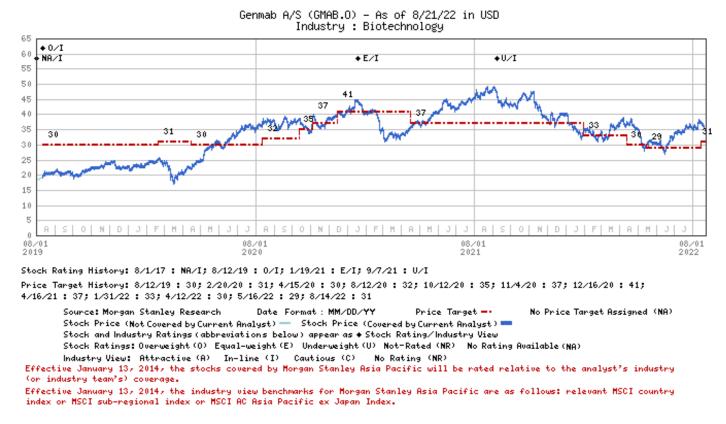
Stock Rating History: 8/1/17 : NA/I; 6/18/21 : 0/I Price Target History: 6/18/21 : 27; 9/7/21 : 39

Stock Ratings: Overweight (0) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)

Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)
Effective January 13, 2014, the stocks covered by Morgan Stanley Asia Pacific will be rated relative to the analyst's industry (or industry team's) coverage.

Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.





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#### **INDUSTRY COVERAGE: Biotechnology**

COMPANY (TICKER)	RATING (AS OF)	PRICE* (08/19/2022)
Jeffrey Hung		
Acadia Pharmaceuticals Inc (ACAD.O)	E (10/14/2021)	\$16.91
Bicycle Therapeutics Plc (BCYC.O)	E (02/14/2022)	\$26.67
Biohaven Pharmaceutical Holding Company (BHVN.N)	E (10/19/2021)	\$148.05
Celularity Inc. (CELU.O)	E (11/24/2021)	\$2.82
Cincor Pharma Inc (CINC.O)	O (02/01/2022)	\$33.16
Cullinan Oncology Inc (CGEMO)	O (04/27/2021)	\$13.16
Cyteir Therapeutics, Inc. (CYT.O)	O (07/13/2021)	\$2.31
Cytokinetics Inc (CYTK.O)	O (04/09/2020)	\$50.68
Erasca, Inc. (ERAS.O)	E (08/10/2021)	\$8.50
Esperion Therapeutics Inc (ESPR.O)	U (10/14/2021)	\$7.39
Evofem Biosciences Inc (EVFMPK)	U (10/14/2021)	\$0.42
Exelixis Inc. (EXEL.O) Graphite Bio, Inc. (GRPH.O)	E (03/18/2019) E (03/21/2022)	\$19.33 \$3.57
Immuneering Corporation (IMRXO)	E (03/21/2022) E (08/24/2021)	\$6.69
Insmed Inc (INSMO)	O (10/19/2021)	\$25.13
Neurocrine Biosciences Inc (NBIXO)	E (10/14/2021)	\$107.00
Prelude Therapeutics Inc (PRLD.O)	O (10/08/2021)	\$8.45
Repare Therapeutics Inc (RPTXO)	O (07/14/2020)	\$12.40
Rhythm Pharmaceuticals Inc (RYTMO)	E (11/19/2021)	\$24.90
Rubius Therapeutics Inc. (RUBY.O)	E (10/19/2021)	\$0.70
Ultragenyx Pharmaceutical Inc (RARE.O)	O (03/27/2019)	\$49.03
Matthew Harrison		
2seventy Bio Inc (TSVT.O)	O (11/08/2021)	\$14.77
Adagene Inc. (ADAG.O)	O (03/07/2021)	\$1.29
Adagio Therapeutics, Inc (ADGI.O)	U (01/06/2022)	\$4.20
ADC Therapeutics SA (ADCT.N)	O (06/09/2020)	\$8.42
Alector Inc (ALEC.O) Alnylam Pharmaceuticals Inc (ALNY.O)	O (03/04/2019)	\$11.61 \$215.97
	E (04/25/2022)	
Amgen Inc. (AMGN.O) argenx SE (ARGX.O)	E (09/07/2021) O (05/03/2022)	\$250.86 \$383.25
Atea Pharmaceuticals Inc (AMR.O)	U (01/06/2022)	\$8.24
BeiGene Ltd (BGNE.O)	O (01/17/2020)	\$174.8 <sup>4</sup>
Biogen Inc (BIIB.O)	O (07/27/2020)	\$214.09
Biomarin Pharmaceutical Inc (BMRN.O)	O (04/25/2022)	\$92.84
BioNTech SE (BNTXO)	E (12/16/2021)	\$147.92
Bluebird Bio Inc (BLUÉ.O)	U (11/08/2021)	\$5.97
Bolt Biotherapeutics, Inc. (BOLT.O)	E (01/06/2022)	\$1.96
Centessa Pharmaceuticals, Inc (CNTAO)	U (08/12/2022)	\$3.84
Cerevel Therapeutics Holdings Inc (CERÉ.O)	O (06/18/2021)	\$32.70
Denali Therapeutics Inc (DNLI.O)	O (01/02/2018)	\$33.1
Editas Medicine (EDIT.O)	U (01/19/2021)	\$14.72
Fulcrum Therapeutics Inc (FULC.O)	O (08/11/2021)	\$7.90
Galapagos NV (GLPG.O)	O (01/19/2021)	\$52.14
Genmab A/S (GMAB.O)	U (09/07/2021)	\$35.89
Gilead Sciences Inc. (GILD.O)	E (01/06/2022)	\$65.34
Global Blood Therapeutics Inc (GBT.O)	++	\$67.02
Innoviva Inc (INVAO)	U (08/14/2014)	\$14.12
IO Biotech (IOBT.O)	O (11/30/2021)	\$3.55
Ionis Pharmaceuticals Inc (IONS.O)	U (11/07/2019)	\$44.00
Kodiak Sciences Inc (KOD.O) Legend Biotech Corp (LEGN.O)	E (11/16/2020) O (01/31/2022)	\$10.46 \$45.43
Lyell Immunopharma, Inc. (LYEL.O)	O (01/31/2022) O (07/12/2021)	\$45.4 \$7.0
Moderna Inc (MRNAO)	E (12/16/2020)	\$7.04 \$146.10
Pharvaris N.V. (PHVS.O)	O (03/02/2021)	\$146.10 \$18.49
Regeneron Pharmaceuticals Inc. (REGN.O)	E (10/01/2015)	\$618.36
Sana Biotechnology, Inc (SANAO)	O (03/01/2021)	\$6.72
Sarepta Therapeutics Inc (SRPT.O)	E (01/08/2021)	\$107.86
Seagen Inc (SGEN.O)	O (01/31/2022)	\$171.6
Tenaya Therapeutics Inc (TNYAO)	O (08/24/2021)	\$4.50
Vaccitech Plc (VACC.O)	O (05/25/2021)	\$4.55
Vertex Pharmaceuticals (VRTXO)	E (05/03/2022)	\$299.04
Vigil Neuroscience Inc (VIGL.O)	E (02/01/2022)	\$7.20

Michael E Ulz



Akero Therapeutics Inc (AKRO.O) Allakos Inc (ALLK.O) AlloVir Inc (ALVR.O) AVROBIO Inc (AVRO.O) Blueprint Medicines Corporation (BPMC.O) Cabaletta Bio Inc (CABAO) Fate Therapeutics Inc (FATE.O) Freeline Therapeutics Holdings plc (FRLN.O) Fusion Pharmaceuticals Inc (FUSN.O) Horizon Therapeutics Plc (HZNP.O) IGM Biosciences Inc (IGMS.O) Iveric Bio Inc (ISEE.O) Karyopharm Therapeutics Inc (KPTI.O) Mrati Therapeutics (MRTX.O) Sigilon Therapeutics Inc (SGTX.O) Taysha Gene Therapies Inc. (TSHAO) Xilio Therapeutics Inc (XL.O.O) Y-mABs Therapeutics Inc. (YMAB.O) Zentalis Pharmaceuticals Inc (ZNTL.O)	E (10/19/2021) E (08/26/2021) O (08/24/2020) E (11/19/2021) E (10/30/2020) O (11/19/2019) E (08/26/2021) E (01/31/2022) O (07/21/2020) O (03/22/2021) E (12/13/2021) O (02/07/2022) E (11/19/2021) E (08/26/2021) E (08/26/2021) E (12/29/2020) O (10/19/2020) O (11/16/2021) E (04/29/2020) O (10/19/2020) O (10/19/2020)	\$12.04 \$4.00 \$7.74 \$1.04 \$69.66 \$1.33 \$29.03 \$0.95 \$2.13 \$60.40 \$21.94 \$12.65 \$5.47 \$77.40 \$0.67 \$3.74 \$2.37 \$17.66 \$26.22
Vikram Purohit  Arcutis Biotherapeutics, Inc. (ARQT.O) Ascendis Pharma A/S (ASND.O) Axsome Therapeutics (AXSMO) Certara Inc (CERT.O) Evelo Biosciences Inc (EVLO.O) Exscientia PLC (EXAL.O) Foghom Therapeutics (FHTX.O) Hookipa Pharma Inc (HOOK.O) Incyte Corp (INCY.O) Instil Bio (TIL.O) Kymera Therapeutics Inc (KYMR.O) Regenxbio Inc (RGNX.O) SAGE Therapeutics Inc (SAGE.O) Schrodinger Inc. (SDGR.O) Talaris Therapeutics (TALS.O) Theravance Biopharma Inc (TBPH.O) Tscan Therapeutics Inc (TCRX.O)	O (11/19/2021) O (11/19/2021) E (08/10/2021) E (01/05/2021) E (10/19/2021) E (10/19/2021) E (10/26/2021) O (11/17/2020) E (11/11/2020) E (04/29/2020) E (04/13/2021) E (09/15/2020) O (10/19/2021) E (11/16/2020) E (11/19/2021) E (11/19/2021) E (07/05/2022) U (08/24/2021) O (08/10/2021)	\$25.68 \$92.59 \$59.55 \$16.56 \$2.59 \$10.29 \$15.76 \$1.56 \$74.54 \$5.70 \$32.00 \$31.29 \$42.77 \$27.88 \$4.08 \$9.34 \$3.05

Stock Ratings are subject to change. Please see latest research for each company. \* Historical prices are not split adjusted.

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