

Fortress Biotech (NASDAQ/FBIO)

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BUY: Multiple Catalysts Ahead, Plenty of Cash, Too

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We recently spent time with Dr. Rosenwald, Fortress CEO. Lindsay highlighted the many catalysts ahead, including Tramadol PDFUFA, 15 clinical programs, Alexion's acquisition of Caelum, where Fortress owns 40% (up to \$500M payable), Bubble Boy Disease (could lead to a priority voucher), a PDL1 antibody and many more.

Investment Highlights

We View Fortress as a Company with a Unique Model That Manages Risk but Keeps the Upside. We have known the senior management of Fortress for more than a decade. We have the highest respect for the track record of this team of creating shareholder value while finding, developing to key inflection points, and finally commercializing value-creating therapeutics. The platform value of the Fortress Machine should not be underestimated. We believe its value goes beyond just the sum of the parts of the therapeutics in its pipeline (there are many) and the multiple ownership stakes in its public companies such as Caelum, where Fortress owns ~40% of the company. Fortress value includes the discovery, licensing, and company infrastructure (access to a pool of CEO/CFO/CMO/CSOs and the right boards) as well as established vendors (CROs, investment banks, regulatory expertise) to create the next company.

Financials: Fortress today has stand-alone cash of \$86M and ownership stakes (public) worth at least \$116M today.

Cyprium Therapeutics (private), 89% owned by Fortress - Menkes Disease. Cyprium is developing CUTX-101 for Menkes disease, a rare genetic disorder affecting about 1 in 100,000 newborns. It is an X-linked recessive disorder of copper metabolism caused by mutations in ATP7A, an evolutionarily conserved copper-transporting ATPase. The disease may cause weak muscle and bone structure, a delay in normal development, seizures, neurodegeneration, and many other painful symptoms, and, ultimately, death. Because of the intensity of the symptoms, infants diagnosed with Menkes disease rarely live past three years of age. CUTX-101 showed a 28% reduction in mortality (early treatment) and improvements in neurodevelopment in a Phase 1-2 trial. **A Phase 3 trial is now underway with a rolling NDA filing expected by 4Q20.** We note that the FDA previously granted Orphan Drug, Fast Track, and Rare Pediatric Disease Designations to CUTX-101. Given the nature of this disease, a pediatric voucher is also possible. These vouchers are typically monetized at \$50-\$200M. We also note that Fortress receives a 4.5% royalty.

So What Are the Real Numbers, or Just How Long is the Capital Runway? Fortress, because of ownership rules, has to report consolidated R&D and SG&A, but in reality, those numbers do not paint an accurate picture of what the company is burning each quarter. Backing out the numbers (adjusting from GAAP to Non-GAAP), we get to an operating expense number closer significantly lower than the GAAP measure. Remember, too, that Journey contributed approximately \$9.5M in net revenues. This translates to a loss of \$0.13 cents per share vs. \$0.19 cents on a GAAP basis.

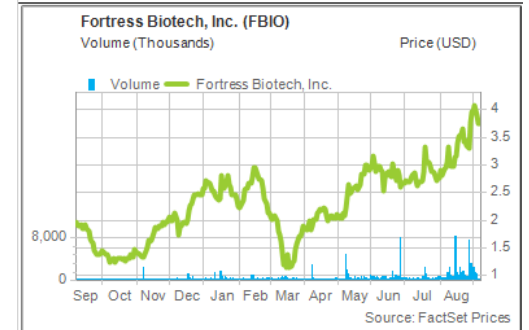
Current Price	\$3.74
Price Target	\$19.00

Estimates	F2019A	F2020E	F2021E
Expenses (\$000s)	\$ 147,448	\$ 149,056	\$ 160,326
1Q March	\$ 39,085	\$ 34,446	\$ 38,032
2Q June	\$ 34,540	\$ 34,853	\$ 39,786
3Q September	\$ 32,312	\$ 38,983	\$ 39,799
4Q December	\$ 41,511	\$ 40,774	\$ 42,710
	F2019A	F2020E	F2021E
EPS (diluted)	\$ (0.73)	\$ (1.47)	\$ (0.63)
1Q March	\$ 0.09	\$ (0.19)	\$ (0.34)
2Q June	\$ (0.24)	\$ (0.19)	\$ 0.45
3Q September	\$ (0.23)	\$ (0.53)	\$ (0.36)
4Q December	\$ (0.35)	\$ (0.55)	\$ (0.37)

EBITDA/Share	(\$1.51)	(\$0.14)	(\$1.04)
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EV/EBITDA (x)	0.0	0.0	-1.0
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Stock Data			
52-Week Range	\$1.04	-	\$4.18
Shares Outstanding (mil.)	88.0		
Market Capitalization (mil.)	\$329		
Enterprise Value (mil.)	\$254		
Debt to Capital	23%		
Book Value/Share	\$1.03		
Price/Book	7.3		
Average Three Months Trading Volume (K)	682		
Insider Ownership	23.7%		
Institutional Ownership	23.8%		
Short interest (mil.)	1.7%		
Dividend / Yield	\$0.00/0.0%		



Dermatology - Not a bad business. Fortress's second quarter produced nine million million in revenues. The company continues to acquire and launch new products building the dermatology franchise. We expect to see a robust growth rate as market penetration continues to develop.

Tramadol & Avenue Therapeutics - Treating Post-Surgical Pain - There must be a better way. Current treatments for post-surgical pain include strong narcotics such as Schedule II (high potential for abuse) opioids, meant for those with severe pain. Much more mild treatments include IV acetaminophens and over-the-counter anti-inflammatory drugs (ex: ibuprofen), lacking a single product that treats more moderate pain without addictive qualities. IV Tramadol is a way to fill that gap, and approval would make it the only intravenous Schedule IV (low risk of abuse) opioid in the U.S. During two recently completed Phase 3 trials, Avenue achieved a statistically significant improvement in its primary endpoint(s), as well as all key secondary endpoints. FBIO stands to pick up a \$55M milestone through its 32% ownership of the company. **The PDUFA date is set for October 10, 2020** (however, we are unsure as the current COVID outbreak could impact timing).

Caelum Biosciences (private) approximately 43% owned by Fortress. Alexion owns just under 20% (\$30M investment) in Caelum. The lead program is CAEL-101 (partnered with Alexion). We note that Alexion is obligated to make a \$30M payment based on certain milestones (such as enrollment marks in the current trial combined with other elements, manufacturing, et al.). Alexion has the option to acquire Caelum (60 days post Phase 2 data) for \$160M (upfront) up to a total value of \$500M, (which translates into \$60M value to Fortress). CAEL-1 is an amyloid fibril targeted therapy designed to reduce/eliminate amyloid deposits in patients with AL amyloidosis. This rare disorder results in misfolded immunoglobulin light chain protein that builds up in tissues and organs, principally the kidneys and heart. Based on Alexion's option, we place the value of Fortress's position at between \$50M and \$75M, and we note that acquisition is triggered if Alexion is acquired. In October 2019, the European Commission granted Orphan Drug Designation to CAEL-101 for the treatment of AL amyloidosis. The FDA had previously granted two orphan drug designations to CAEL-101 for the use of CAEL-101 as a therapeutic agent for patients with AL amyloidosis and a radio-imaging agent in amyloidosis.

MB-107 (Lentiviral Gene Therapy for XSCID): Orphan Bubble Boys. Mustang (MBIO-Not Rated) is Leveraging CAR-T and Going Pivotal. Mustang Bio is developing MB-107 for bubble boy disease using a first-in-class ex-vivo lentiviral gene therapy that has already shown great promise in two early-stage trials. FBIO owns ~ 30% of Mustang and is entitled to a 4.5% royalty in 107, as well as a 2.5% equity dividend annually. We see peak revenues for MBIO on just 107 alone in the \$50M range, suggesting fair value at 4-5x revenues of \$250M, and that's without the rest of MBIO's pipeline. That equates to \$75M in value back to FBIO just for the ownership stake; add in the royalty and dividend, and we get closer to the \$100M mark. We also note that **Mustang announced a complete response (CR) in its first patient in refractory B-cell non-Hodgkin lymphoma. We could see this program translate into a priority voucher for Fortress.**

Cancer Immunotherapy - Building a Better Mouse Trap (TKI & PD-L1). CheckPoint (CKPT) is developing an EGFR Tyrosine Kinase Inhibitor (TKI) known as CK-101 and has an anti-PD-L1 antibody (Cosibelimab). CK-101 is in early (Phase 1) development for EGFR positive lung cancer. Recent data from the European Society for Medical Oncology (ESMO) showed a 40% objective response rate observed in NSCLC patients. The goal is to develop an improved TKI versus Tarceva, Iressa, and or Tagrisso, efficacy, and adverse events profile. Recent data suggest a high tolerance of CK-101 across multiple dose groups with preliminary activity for treating the cancer. On the PD-L1 side, interim data shows substantial efficacy in multiple tumor types with a well-tolerated safety profile. So how does FBIO benefit? CKPT is 32% owned by FBIO, gets a 4.5% royalty on sales of both programs above and again, here too, receives an annual 2.5% equity dividend. Clinical progression of the TKI could go pivotal this year and the PD-L1 in 2021. Since the TKI and PD-L1 space represents blockbuster opportunities, if fully developed, the revenue potential is high, which means FBIO's 32% stake in CKPT, as well as the royalty, could prove quite valuable. For modeling purposes, if we assume just a 10% market share and a 30% probability of success, it still equates to revenues of over \$300M and \$15M in royalties. Double that for the PD-L1. This suggests Checkpoint could easily be worth (3-5x revenues) or \$2B in market value (must be adjusted for NPV), 32% of which is owned by FBIO or \$640M in value and again, that is without the royalty or dividend valued.

Valuation: Please see our discussion of valuation on the following pages. Valuation is a complex discussion for Fortress as it represents a "platform therapeutics company" that has significant ownership stakes in companies such as Mustang Bio.

Risks to our thesis, include the following: (1) commercial; (2) regulatory; (3) clinical; (4) financial; and (5) intellectual property. We review these and other risks in the risk section of this report.

Exhibit 1. Pipeline Driven Catalysts

Candidate*	Indication	Phase 1	Phase 2	Phase 3	Next Milestone	Partnership % / Royalty†	Potential Peak Sales Revenue*
IV Tramadol	Moderate to moderately severe post-operative pain				PDUFA action date of October 10, 2020	29% Avenue** 10-20% CVR Royalty on gross profits****	~\$790M
MB-107 & MB-207 Gene Therapy	XSCID (newly diagnosed) XSCID (previously transplanted)				File IND for MB-207 (previously transplanted patients) in 4Q 2020	25% Mustang 4.5% Royalty	~\$200M
CUTX-101 Copper Histidine	Menkes disease				Rolling NDA submission expected to start in 4Q 2020 and be completed in 1H 2021	79% Cyprium 4.5% Royalty	~\$175M
COSIBELIMAB Anti-PD-L1 mAb	Recurrent or metastatic cancers				P1 Registration-enabling expansion cohorts ongoing; potential to support 1 or more BLA filings	21% Checkpoint 4.5% Royalty	\$300M - \$500M (initial indication CSCC)
CK-101 Mut.-EGFR Inh.	EGFR* NSCLC				Initiate Registration Study	21% Checkpoint 4.5% Royalty	\$300M - \$600M
CAEL-101 mAb 11-1F4	Amyloid light chain amyloidosis				Initiate pivotal Phase 3 program 2H 2020	43% Caelum***	
BAER-101 α2/3-subtype-GABA A PAM	CNS Disorders				Preclinical POC data to support IND in Refractory Epilepsy anticipated 2020	67% Baergic 4.5% Royalty	~\$200M - \$300M (refractory epilepsy)

IV Tramadol¹ & Cipla

- FBIO eligible to receive up to \$48M upfront in contingent acquisition of Avenue
- CVR Payout of 10-20% of gross profits²
- PDUFA goal action date of 10/10/2020

CAEL-101¹ & Alexion

- Eligible to receive 43% of up to \$500M (upfront and approval / sales milestones) in event of Alexion exercise of contingent option
- Initiate pivotal Phase 3 program in 2H20

Journey Medical

- Generated \$34.9M in net revenue for the full year 2019; a 49% increase over 2018
- Generated \$21.4M in net revenue in the first half of 2020, a 50% increase over the first half of 2019
- Expect to acquire 1 to 2 new revenue-generating dermatology products in 2020

MB-107 & MB-207¹

- Expect to commence Phase 2 registration trial for newborns with XSCID shortly
- File IND for Phase 2 registration trial in previously transplanted patients, expected Q4 2020

Cosibelimab and CK-101¹

- Interim data update for cosibelimab expected in 2H 2020; Complete enrollment in cosibelimab registration-enabling CSCC expansion cohort expected early 2021
- Potential initiation of CK-101 global registration study for treatment of lung cancer

ONCOlogues Platform

- KRAS G12D pre-IND completion
- PRVs (Priority Review Vouchers)**
- Filing for at least 2 PRVs anticipated (CUTX-101, MB-107 (newly diagnosed) and MB-207 (previously transplanted))¹
 - Data suggests PRVs may be worth ~\$75M to ~\$110M, each

Source: Fortress

1. IV Tramadol, CAEL 101, Cosibelimab, CK 101, CUTX 101, MB 107 (newly diagnosed XSCID), MB 207 (previously transplanted XSCID) and ONCOlogues are product candidates in development at FBIO partner company.
2. 2. Fortress to receive ~1/3 of CVR royalty if certain net sales thresholds are met

Model Assumptions

1. We model five late-stage therapeutic products (below) and apply to each one its own probability of success factor.
2. Each model assumes launch timing, market share, and pricing.
3. Models are based on available statistics for prevalence and incidence of the target therapeutic indication.
4. Price is based on our understanding of the market and the duration of therapy annually.

Exhibit 2. Product Models

Avenue Therapeutics	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
IV Tramadol													
IV pain relievers market	10,000,000	10,010,000	10,020,010	10,030,030	10,040,060	10,050,100	10,060,150	10,070,210	10,080,281	10,090,361	10,100,451	10,110,552	10,120,662
Cost of Therapy				\$200	\$200	\$202	\$204	\$206	\$208	\$210	\$212	\$214	\$217
Price Change					1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Market share				1%	2%	4%	10%	20%	30%	35%	40%	45%	45%
Patients Treated with a Course				100,300	200,801	402,004	1,006,015	2,014,042	3,024,084	3,531,626	4,040,180	4,549,748	4,554,298
Revenues (000)	20,060	40,160	81,205	205,247	415,014	829,375	1,658,750	3,317,500	4,039,652	4,751,803	5,463,954	6,176,105	6,176,105
Probability of Success (Phase 3)				70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
Adjusted Revenues (000)				\$ 14,042	\$ 28,112	\$ 56,843	\$ 143,673	\$ 290,510	\$ 440,562	\$ 519,648	\$ 600,423	\$ 682,912	\$ 690,431

Mustang Bio	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
MB-107 "Bubble Boy"													
Current "Reservoir" patients (U.S. and ex-U.S. markets)					1,050	1,125	900	600	500	575	475	375	275
New Cases a year (U.S. and ex-U.S. markets)					75	75	75	75	75	75	75	75	75
Market Share Prevalance					10%	20%	35%	55%	60%	65%	70%	75%	80%
Market Share New Cases					10%	20%	35%	55%	75%	85%	90%	90%	90%
Total patients treated					113	240	341	371	356	438	400	349	288
Cost of Therapy (one-time)					\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000
Revenues (M)					168,750	360,000	511,875	556,875	534,375	656,250	600,000	523,125	431,250
Probability of Success (Phase 2/3)					30%	30%	30%	30%	30%	30%	30%	30%	30%
Adjusted Revenues (M)					\$ 50,625	\$ 108,000	\$ 153,563	\$ 167,063	\$ 160,313	\$ 196,875	\$ 180,000	\$ 156,938	\$ 129,375
Royalty assumed					4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Royalty revenue (000)					\$ 2,278	\$ 4,860	\$ 6,910	\$ 7,518	\$ 7,214	\$ 8,859	\$ 8,100	\$ 7,062	\$ 5,822

CheckPoint PD-L1 in NSCLC	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Cosibelimab (NSCLC)													
New cases of lung cancer/year		228,150	228,150	228,150	228,150	228,150	228,150	228,150	228,150	228,150	228,150	228,150	228,150
Patients - PDL1 Option		75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Target patient population		171,113	171,113	171,113	171,113	171,113	171,113	171,113	171,113	171,113	171,113	171,113	171,113
Market share						1%	2%	4%	6%	8%	10%	12%	14%
Patients treated						1,711	3,422	6,845	10,267	13,689	17,111	20,534	23,956
Costs						\$ 35,000	\$ 55,000	\$ 55,000	\$ 55,000	\$ 55,000	\$ 55,000	\$ 55,000	\$ 55,000
Revenues (000)						\$ 59,889	\$ 188,224	\$ 376,448	\$ 564,671	\$ 752,895	\$ 941,119	\$ 1,129,343	\$ 1,317,566
Probability of Success						50%	50%	50%	50%	50%	50%	50%	50%
Adjusted Revenues (M)						\$ 29,945	\$ 94,112	\$ 188,224	\$ 282,336	\$ 376,448	\$ 470,559	\$ 564,671	\$ 658,783
Royalty assumed		4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Royalty revenue (000)						\$ -	\$ -	\$ 1,348	\$ 4,235	\$ 8,470	\$ 12,705	\$ 16,940	\$ 21,175

CheckPoint TKI in NSCLC	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
CK-101 (EGFR mutation + LC)													
New cases of lung cancer/year		228,150	228,150	228,150	228,150	228,150	228,150	228,150	228,150	228,150	228,150	228,150	228,150
Total Lung Cancer Market size (M)		19,250,000	19,478,150	19,706,300	19,934,450	20,162,600	20,390,750	20,618,900	20,847,050	21,075,200	21,303,350	21,531,500	21,759,650
Total NSCLC lung cancer		16,362,500	16,556,428	16,750,355	16,944,283	17,138,210	17,332,138	17,526,065	17,719,993	17,913,920	18,107,848	18,301,775	18,495,703
% of patients with EGFR/NSCLC patients		26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%
Patients with EGFR/NSCLC patients						59,319	59,319	59,319	59,319	59,319	59,319	59,319	59,319
Market share						5%	10%	12%	14%	15%	16%	17%	18%
Treated patients (000)						2,966	5,932	7,118	8,305	8,998	9,491	10,084	10,677
Cost (competition=\$15,240/month)						\$ 182,880	\$ 182,880	\$ 182,880	\$ 182,880	\$ 182,880	\$ 182,880	\$ 182,880	\$ 182,880
Revenues (000)						\$ 542,413	\$ 1,084,826	\$ 1,301,791	\$ 1,518,756	\$ 1,627,239	\$ 1,735,721	\$ 1,844,204	\$ 1,952,687
Probability of Success						30%	30%	30%	30%	30%	30%	30%	30%
Adjusted Revenues (000)						\$ 162,724	\$ 325,448	\$ 390,537	\$ 455,627	\$ 488,172	\$ 520,716	\$ 553,261	\$ 585,806
Royalty assumed						4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Royalty revenue (000)						\$ 7,323	\$ 14,645	\$ 17,574	\$ 20,503	\$ 21,968	\$ 23,432	\$ 24,897	\$ 26,361

Cyprion Therapeutics (private)	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
CUTX-101 (Menkes Disease)													
Prevalance (USA)	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720	2,720
Incidence annually (USA)	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Target patient population	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Market share		0%	0%	0%	10%	30%	50%	70%	80%	80%	80%	80%	80%
Patients treated					250	750	1,250	1,750	2,000	2,000	2,000	2,000	2,000
Price					\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000
Revenues (000)					75,000	225,000	375,000	525,000	600,000	600,000	600,000	600,000	600,000
Probability of Success					30%	30%	30%	30%	30%	30%	30%	30%	30%
Adjusted Revenues (M)					\$ 22,500	\$ 67,500	\$ 112,500	\$ 157,500	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000
Royalty assumed					4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Royalty revenue (000)					\$ -	\$ 1,013	\$ 3,038	\$ 5,063	\$ 7,088	\$ 8,100	\$ 8,100	\$ 8,100	\$ 8,100

Source: Dawson James estimates, company reports

Valuation: As we previously mentioned, Valuation is a complex discussion for Fortress. Fortress, as the controlling entity, reports consolidated statements. Our valuation expenses are based on GAAP numbers, but we recognize this is conservative. If we substituted Non-GAAP projections, it would actually result in a higher valuation. There are multiple ways to value a "platform therapeutics company" such as Fortress that has a majority ownership in multiple public companies with the rights to royalties and milestones, plus the company has its own internal products that are generating revenues and internal private companies that have their own therapeutic pipeline candidates. We choose to model the key products as they exist (inside and outside the company) and project them based on the ownership percentage to the Fortress income statement. We recognize that this is a "model." It is a method to forecast future value, i.e., reporting the revenues of outside companies based on the percentage ownership (not as a 100% consolidated entity), but we do show the consolidated expenses as they are currently reported by Fortress. We view our method as doubly conservative; that is, we cut the revenues but not the expenses. One might argue we need to assess each outside company, determine net income, and apply valuation metrics, based on the projected value of the external company. We leave that for "others" to do, as our purpose is to determine: is their upside to Fortress based on the value of the holding in the external companies, the product royalties, the annual stock dividend, and the internal companies and P&L metrics of Fortress itself? We conclude yes. In our model, we do separate and show our projected revenues, royalties and milestones. We model external and internal products. We then assume R&D, SG&A based on the current consolidated numbers. We project the share count as well as revenues, expenses, and ultimately net income out to 2030. For each individual product, we make certain assumptions about the timing and probability of success and apply these assumptions to our model. We apply a probability of success in our therapeutic models. This ranges from as low as just 30% to as high as 70% based on what we feel is the therapeutic risk that the product will advance. In addition to the success factor, we apply a 15% discount rate (r) in our Free Cash Flow to the Firm (FCFF), Discounted EPS (dEPS) and Sum of the Parts (SOP) models. We then average the result and round to the nearest whole number to derive our \$19.00 12-month price target.

Exhibit 3. Free Cash Flow Model

Price Target	21
Year	2020

DCF Valuation Using FCF (mln):

units ('000)	2019A	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
EBIT	(101,660)	(136,205)	(71,293)	(89,881)	46,833	209,061	354,789	475,154	556,301	619,700	681,695	718,367
Tax Rate	0%	0%	0%	0%	0%	10%	15%	18%	20%	21%	21%	21%
EBIT (1-t)	(101,660)	(136,205)	(71,293)	(89,881)	46,833	188,155	301,571	389,626	445,041	489,563	538,539	567,510
CapEx												
Depreciation												
Change in NWC												
FCF	(101,660)	(136,205)	(71,293)	(89,881)	46,833	188,155	301,571	389,626	445,041	489,563	538,539	567,510
PV of FCF	(116,909)	(136,205)	(61,994)	(67,963)	30,794	107,578	149,934	168,446	167,307	160,039	153,086	140,280
Discount Rate		15%										
Long Term Growth Rate		1%										
Terminal Cash Flow		4,094,180										
Terminal Value YE2030		1,012,019										
NPV		1,823,322										
NPV-Debt		9,396										
Shares out ('000)		84,929	2030E									
NPV Per Share		21										

Source: Dawson James estimates, company reports

Exhibit 4. Discounted-EPS Model

Current Year	2020
Year of EPS	2030
Earnings Multiple	10
Discount Factor	15%
Selected Year EPS	\$ 6.54
NPV	16

		Discount Rate and Earnings Multiple Varies, Year is Constant					
		5%	10%	15%	20%	25%	30%
Earnings Multiple	1	4.01	2.52	1.62	1.06	0.70	0.47
	5	20.07	12.61	8.08	5.28	3.51	2.37
	10	40.15	25.21	16.17	10.56	7.02	4.74
	15	60.22	37.82	24.25	15.84	10.53	7.12
	20	80.30	50.43	32.33	21.12	14.04	9.49
	25	100.37	63.03	40.41	26.41	17.56	11.86
	30	120.45	75.64	48.50	31.69	21.07	14.23
	35	140.52	88.25	56.58	36.97	24.58	16.60

Source: Dawson James estimates

Exhibit 5. Sum-of-the-Parts Model

Fortress Biotech	LT Gr	Discount Rate	Yrs to Peak	% Success	Peak Sales (MM's)	Term Val
Avenue Tramadol IV (Pain)	1%	15%	4	70%	\$986	\$7,045
NPV						\$10.1
Mustang MB-107 (bubble Boy)	1%	15%	3	70%	\$431	\$3,080
NPV						\$5.1
Cyprium CUTX-101 (Menke's Disease)	1%	30%	4	70%	\$600	\$2,069
NPV						\$2
CheckPoint Cosibelimab (PD-L1)	1%	30%	4	70%	\$1,318	\$4,543
NPV						\$4
CheckPoint CK-101 (TRK)	1%	30%	4	70%	\$1,953	\$6,733
NPV						\$5.9
Net Margin (Products)						30%
MM Shrs OS (2030E)						84
Product Total NPV						\$21
Product Royalties NPV	1%	15%	4	70%	\$88	\$627
NPV						\$0.9
NPV - Royalties & Products						\$21.8
Milestones	1%	15%	4	70%	\$50	\$357
NPV						\$0.5
NPV - Royalties & Products & Milestones						\$22.4

Source: Dawson James estimates

Risk Analysis

In addition to the typical risks associated with development stage specialty pharmaceutical companies, potential risks specific to Fortress Biotech are as follows:

Financial risk. The company may need to raise capital in the marketplace in order to successfully push its products into the next phase, and there can be no assurances that the company will be able to successfully raise capital and or do so on favorable terms.

Clinical and regulatory risk. Lead products must start and complete clinical trials. Trials may not produce results sufficient for regulatory approval.

Partnership risk. Fortress Biotech may seek partnerships for clinical development support and commercialization. We have no specific knowledge of any discussions with possible partners today, and there can be no assurances that the company will be able to secure a favorable partnership.

Commercial risk. There are no assurances that the company will be able to secure favorable pricing, commercially launch products, and achieve significant market share to become profitable.

Legal and intellectual property risk. The company may have to defend its patents and technical know-how, and there can be no assurances that the patents will not be infringed or will be held as valid if challenged, and or that the company may infringe on third parties' patents.

Companies mentioned in this report, working with Fortress and or part of valuation discussion:

Alexion (ALXN/NASDAQ)-Not covered.

InvaGen Pharmaceuticals – (Private).

St. Jude Children’s Research Hospital (Private).

Mustang Bio (MBIO/NASDAQ) – Not covered.

Checkpoint Therapeutics (CKPT/NASDAQ) – Not covered.

Avenue Therapeutics (ATXI/ NASDAQ) – Not covered.

Caelum Biosciences (Private).

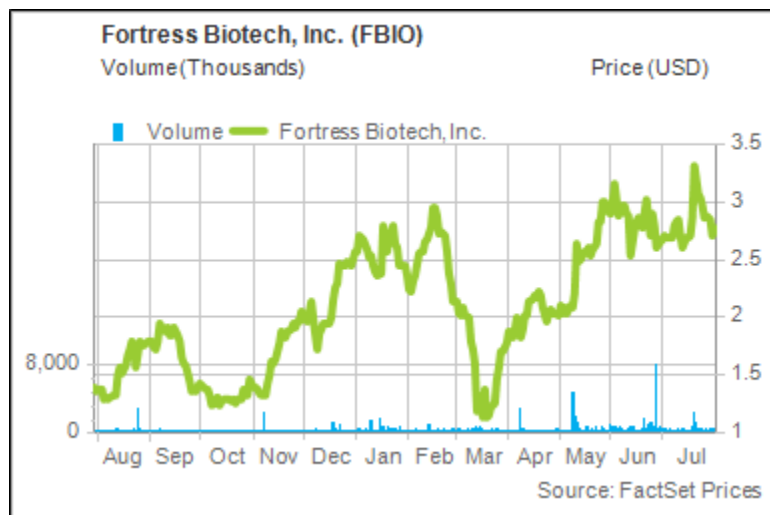
Journey Medical Corporation (internal Fortress company).

Cyprium Therapeutics (Private).

Important Disclosures:

Price Chart:

Price target and rating changes over the past three years:



- Initiated – Buy August 26, 2019, Price Target \$19.00
- Update – Buy September 17, 2019, Price Target \$19.00
- Update – Buy November 4, 2019, Price Target \$19.00
- Update – Buy December 11, 2019, Price Target \$19.00
- Update – Buy December 23, 2019, Price Target \$19.00
- Update – Buy January 15, 2020, Price Target \$19.00
- Update – Buy February 14, 2020, Price Target \$19.00
- Update – Buy February 20, 2020, Price Target \$19.00
- Update – Buy March 30, 2020, Price Target \$19.00
- Update – Buy May 14, 2020, Price Target \$19.00
- Update – Buy July 31, 2020, Price Target \$19.00
- Update – Buy September 8, 2020, Price Target \$19.00

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Rating Definitions:

- 1) **Buy:** the analyst believes the price of the stock will appreciate and produce a total return of at least 20% over the next 12-18 months;
- 2) **Neutral:** the analyst believes the price of the stock is fairly valued for the next 12-18 months;
- 3) **Sell:** the analyst believes the price of the stock will decline by at least 20% over the next 12-18 months and should be sold.

The following chart reflects the range of current research report ratings for all companies, followed by the analysts of the Firm. The chart also reflects the research report ratings relating to those companies for which the Firm has performed investment banking services.

Ratings Distribution	Company Coverage		Investment Banking	
	# of Companies	% of Total	# of Companies	% of Totals
Market Outperform (Buy)	23	85%	4	17%
Market Perform (Neutral)	4	15%	1	25%
Market Underperform (Sell)	0	0%	0	0%
Total	27	100%	5	19%

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