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## Fortress Biotech (NASDAQ/FBIO)

November 10, 2020

### BUY: Reports the Third Quarter; \$220M in Runway

*Fortress reported the third quarter with a net loss of \$30M, but on an adjusted basis (non-GAAP basis), the loss is just \$5M versus cash and equivalents of \$220M (consolidated) or \$97M – (calculated & excludes public partner companies).*

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### Investment Highlights

**Capital Runway.** During the quarter, Fortress raised approximately \$12M (Series A perpetual preferred stock) in a stock offering. Fortress also signed a \$60 million refinancing agreement with Oaktree Capital Management.

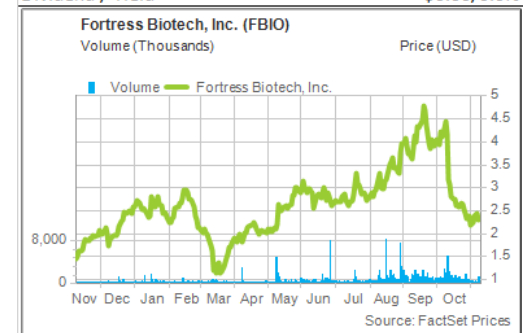
**Fortress is a Company with a Unique Model That Manages Risk but Keeps the Upside, in Our View.** We have known the senior management of Fortress for more than a decade. We have the highest respect for the track record of this team of creating shareholder value while finding, developing to key inflection 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 a significant percentage of the company.

**Cyprium Therapeutics (private), 79% 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. We note that in August, Fortress reported positive top-line clinical efficacy results for CUTX-101. The study demonstrated statistically significant improvement in overall survival for Menkes disease subjects who received early treatment (ET) with CUTX-101, compared to an untreated historical control (HC) cohort, with a nearly 80% reduction in the risk of death (Hazard Ratio = 0.21, p<0.0001). Median survival for the ET cohort was 14.8 years (177.1 months) compared to 1.3 years (15.9 months) for the untreated HC cohort.

**A Phase 3 trial is now completed, with a rolling NDA submission in in 1Q21.** 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.

**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.

Current Price	\$2.34		
Price Target	\$16.00		
<b>Estimates</b>	<b>F2019A</b>	<b>F2020E</b>	<b>F2021E</b>
<b>Expenses (\$000s)</b>	\$ 147,448	\$ 138,291	\$ 160,326
1Q March	\$ 39,085	\$ 34,446	\$ 38,032
2Q June	\$ 34,540	\$ 34,853	\$ 39,786
3Q September	\$ 32,312	\$ 32,518	\$ 39,799
4Q December	\$ 41,511	\$ 36,474	\$ 42,710
	<b>F2019A</b>	<b>F2020E</b>	<b>F2021E</b>
<b>EPS (diluted)</b>	\$ (0.73)	\$ (0.73)	\$ (0.95)
1Q March	\$ 0.09	\$ (0.19)	\$ (0.23)
2Q June	\$ (0.24)	\$ (0.19)	\$ (0.24)
3Q September	\$ (0.23)	\$ (0.20)	\$ (0.23)
4Q December	\$ (0.35)	\$ (0.14)	\$ (0.25)
<b>EBITDA/Share</b>	<b>(\$1.43)</b>	<b>(\$0.15)</b>	<b>(\$1.71)</b>
<b>EV/EBITDA (x)</b>	<b>0.0</b>	<b>0.0</b>	<b>-1.7</b>
<b>Stock Data</b>			
52-Week Range	\$1.04	-	\$4.78
Shares Outstanding (mil.)	93.7		
Market Capitalization (mil.)	\$219		
Enterprise Value (mil.)	\$144		
Debt to Capital	34%		
Book Value/Share	\$1.03		
Price/Book	7.3		
Average Three Months Trading Volume (K)	525		
Insider Ownership	21.2%		
Institutional Ownership	22.8%		
Short interest (mil.)	2.1%		
Dividend / Yield	\$0.00/0.0%		



**Dermatology - Not a bad business.** Fortress's 3Q produced \$9M-plus 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.

**Fortress also holds a significant stake in Caelum Biosciences (private):** Where are we CAEL-101 Now? This past September two Phase 3 studies of CAEL-101 for AL amyloidosis were initiated. The studies are planned to enroll N=370 patients. Recall that Alexion owns just under 20% (\$30M investment) in Caelum with up to an additional \$110M in funding based on development milestones. Alexion has the option to acquire Caelum (60 days post Phase 3 data) for \$160M (upfront) up to a total value of \$500M (which translates into \$220M 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, 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 could see this program translate (and the adult program too), into priority vouchers 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). The PD-L1 has shown substantial efficacy in multiple tumor types with a well-tolerated safety profile. In September, Fortress announced (updated), positive interim results from the ongoing global, open-label, multicohort, Phase 1 clinical trial of our anti-PD-L1 antibody, cosibelimab, in patients with advanced cancers, including the registration-enabling cohort of patients with metastatic cutaneous squamous cell carcinoma ("mCSCC"). Cosibelimab demonstrated a 51.4% objective response rate ("ORR") and 13.5% complete response rate, which is nearly double the complete response rate observed at the time of previous analysis.

**So how does FBIO benefit?** CKPT is approx. 23% (post financing) owned by FBIO, which also gets a 4.5% royalty on sales of both programs above and again, here too, receives an annual 2.5% equity dividend. The PD-L1 market alone represents a blockbuster opportunity. We believe that the revenue potential is high. Fortress's 32% stake in Checkpoint, plus the product royalty, could prove quite valuable. Given the revenue potential, it suggests to us that 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.

**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.

## Model Assumptions

1. Our probability of success for Tramadol is just 10% with commercialization in 2023.
2. We model five late-stage therapeutic products (below) and apply to each one its own probability of success factor.
3. Each model assumes launch timing, market share, and pricing.
4. Models are based on available statistics for prevalence and incidence of the target therapeutic indication.
5. Price is based on our understanding of the market and the duration of therapy annually.
6. Our model assumes certain milestones are achieved, for example, a voucher associated with Menkes disease program is monetized.

## Exhibit 1. 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				\$200.00	\$200.00	\$200.00	\$204.02	\$206.06	\$208.12	\$210.20	\$212.30	\$214.43	\$216.57
Price Change					1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Market share				0%	0%	4%	10%	10%	30%	35%	40%	45%	45%
Patients Treated with a Course				-	-	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)				0	0	81,205	205,247	415,014	629,375	742,355	857,747	975,589	986,330
Probability of Success (Phase 3)				10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
<b>Adjusted Revenues (000)</b>				\$ -	\$ -	\$ 8,120	\$ 20,525	\$ 41,501	\$ 62,937	\$ 74,235	\$ 85,775	\$ 97,559	\$ 98,633

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 Prevalence					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%
<b>Adjusted Revenues (M)</b>					\$ 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%
<b>Royalty revenue (000)</b>					\$ 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
<b>Cosibelimab (NSCLC)</b>													
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%
<b>Adjusted Revenues (M)</b>						\$ 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%
<b>Royalty revenue (000)</b>						\$ -	\$ -	\$ 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	8,898	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%
<b>Adjusted Revenues (000)</b>						\$ 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%
<b>Royalty revenue (000)</b>						\$ 7,323	\$ 14,645	\$ 17,574	\$ 20,503	\$ 21,968	\$ 23,432	\$ 24,897	\$ 26,361

Cyprum Therapeutics (private)	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
<b>CUTX-101 (Menkes Disease)</b>													
Prevalence (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%
<b>Adjusted Revenues (M)</b>					\$ 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%
<b>Royalty revenue (000)</b>					\$ -	\$ 1,013	\$ 3,038	\$ 5,063	\$ 7,088	\$ 8,100	\$ 8,100	\$ 8,100	\$ 8,100

Source: Dawson James estimates, company reports

**Valuation:** How to value Fortress? As a reminder, 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 (such as monetization of a priority voucher), 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 10% 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 \$16.00 12-month price target.

## Exhibit 2. Free Cash Flow Model (\$)

Average	16
Price Target	19
Year	2021

### DCF Valuation Using FCF (mln):

units ('000)	2019A	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
EBIT	(101,660)	(127,214)	(130,786)	(88,877)	41,242	179,653	285,107	364,314	423,769	465,013	504,382	538,992
Tax Rate	0%	0%	0%	0%	0%	10%	15%	18%	20%	21%	21%	21%
EBIT (1-t)	(101,660)	(127,214)	(130,786)	(88,877)	41,242	161,688	242,341	298,738	339,015	367,360	398,462	425,804
CapEx												
Depreciation												
Change in NWC												
FCF	(101,660)	(127,214)	(130,786)	(88,877)	41,242	161,688	242,341	298,738	339,015	367,360	398,462	425,804
PV of FCF	(134,445)	(146,296)	(130,786)	(77,284)	31,185	106,312	138,559	148,525	146,566	138,104	130,258	121,040
Discount Rate		15%										
Long Term Growth Rate		1%										
Terminal Cash Flow		3,071,868										
Terminal Value YE2030		873,217										
NPV		1,479,400										
NPV-Debt		9,396										
Shares out ('000)		79,158	2030E									
NPV Per Share		19										

Source: Dawson James estimates, company reports

**Exhibit 3. Discounted-EPS Model**

Current Year	2021
Year of EPS	2030
Earnings Multiple	10
Discount Factor	15%
Selected Year EPS	\$ 5.54
NPV	16

		Discount Rate and Earnings Multiple Varies, Year is Constant					
		5%	10%	15%	20%	25%	30%
Earnings Multiple	1	3.57	2.35	1.57	1.07	0.74	0.52
	5	17.86	11.75	7.87	5.37	3.72	2.61
	10	35.71	23.49	15.75	10.74	7.44	5.22
	15	53.57	35.24	23.62	16.11	11.15	7.84
	20	71.42	46.99	31.50	21.47	14.87	10.45
	25	89.28	58.74	39.37	26.84	18.59	13.06
	30	107.13	70.48	47.24	32.21	22.31	15.67
	35	124.99	82.23	55.12	37.58	26.02	18.28

Source: Dawson James estimates

**Exhibit 4. Sum-of-the-Parts Model**

	LT Gr	Discount Rate	Yrs to Peak	% Success	Peak Sales (MM's)	Term Val
<b>Fortress Biotech</b>						
<b>Avenue Tramadol IV (Pain)</b>	1%	15%	4	10%	\$986	\$7,045
NPV						\$1.5
<b>Mustang MB-107 (bubble Boy)</b>	1%	15%	3	70%	\$431	\$3,080
NPV						\$5.4
<b>Cyprium CUTX-101 (Menke's Disease)</b>	1%	30%	4	70%	\$600	\$2,069
NPV						\$2
<b>CheckPoint Cosibelimab (PD-L1)</b>	1%	30%	4	70%	\$1,318	\$4,543
NPV						\$4
<b>CheckPoint CK-101 (TRK)</b>	1%	30%	4	70%	\$1,953	\$6,733
NPV						\$6.3
Net Margin (Products)						30%
MM Shrs OS (2030E)						78
<b>Product Total NPV</b>						<b>\$13</b>
<b>Product Royalties NPV</b>	1%	15%	4	70%	\$102	\$729
NPV						\$1.1
NPV - Royalties & Products						\$14.3
<b>Milestones</b>	1%	10%	2	70%	\$100	\$1,111
NPV						\$2.5
NPV - Royalties & Products & Milestones						\$16.8

Source: Dawson James estimates

**Exhibit 5. Income Statement**

	2019A	1Q20A	2Q20A	3Q20A	4Q20E	2020E	1Q21E	2Q21E	3Q21E	4Q21E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	
<b>Probability Revenue Forecast: ('000)</b>																					
<b>Avenue Therapeutics: IV Tramadol end use sales</b>							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,120	\$ 20,525	\$ 41,501	\$ 62,937	\$ 74,235	\$ 85,775	\$ 97,559	\$ 98,633	
Percent Owned by Fortress	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
<b>Revenues Attributed back to Fortress</b>	-	-	-	-	-	-	-	-	-	-	-	2,599	6,568	13,280	20,140	23,755	27,448	31,219	31,563		
<b>Mustang Bio - Bubble Boy (MB-107)</b>												\$ 50,625	\$ 108,000	\$ 153,563	\$ 167,063	\$ 160,313	\$ 196,875	\$ 180,000	\$ 156,938	\$ 129,375	
Percent Owned by Fortress	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	
<b>Revenues Attributed back to Fortress</b>	0	0	0	0	0	0	-	-	-	-	15,188	32,400	46,069	50,119	48,094	59,063	54,000	47,081	38,813		
<b>Cyprum - CUTX-101 - Menkes Disease</b>							\$ -	\$ -	\$ -	\$ -	\$ -	\$ 22,500	\$ 67,500	\$ 112,500	\$ 157,500	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000	
Percent Owned by Fortress	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	89%	
<b>Revenues Attributed back to Fortress</b>	1	0	0	0	0	1	0	0	0	0	1	20,025	60,075	100,125	140,175	160,200	160,200	160,200	160,200	160,200	
<b>Checkpoint (Cosibelmab PD-L1)</b>													\$ 29,945	\$ 94,112	\$ 188,224	\$ 282,336	\$ 376,448	\$ 470,559	\$ 564,671	\$ 658,783	
Percent Owned by Fortress	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
<b>Revenues Attributed back to Fortress</b>	-	-	-	-	-	-	-	-	-	-	-	9,582	30,116	60,232	90,347	120,463	150,579	180,695	210,811		
<b>CK-101 end use sales</b>													\$ 162,724	\$ 325,448	\$ 390,537	\$ 455,627	\$ 488,172	\$ 520,716	\$ 553,261	\$ 585,806	
Percent Owned by Fortress	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
<b>Revenues Attributed back to Fortress</b>	-	-	-	-	-	-	-	-	-	-	-	52,072	104,143	124,972	145,801	156,215	166,629	177,044	187,458		
<b>Journey Medical Corporation (Dermatology)</b>	34,921	11,946	9,006	9,447	11,506	41,905	8,674	9,806	9,052	10,183	37,715	41,486	45,635	50,198	55,218	60,740	66,814	73,495	80,845	88,929	
Percent Owned by Fortress	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
<b>Revenues Attributed back to Fortress</b>	34,921	11,946	9,006	9,447	11,506	41,905	8,674	9,806	9,052	10,183	37,715	41,486	45,635	50,198	55,218	60,740	66,814	73,495	80,845	88,929	
<b>Other Revenue Back to Fortress</b>	1,708	972	451	28	428	1,879	475	496	517	579	2,067	2,273	2,501	2,751	3,026	3,328	3,661	4,027	4,430	4,873	
<b>Fortress Revenues</b>	36,629	12,918	9,457	9,475	11,934	43,785	9,150	10,302	9,568	10,762	39,782	78,972	204,863	339,970	447,022	528,650	590,171	636,379	681,513	722,646	
Avenue Therapeutic (IV Tramadol) Royalties (4.5% on sales > \$325M)																					
Associate Milestones											\$ -										
Mustang Bio - Bubble Boy (MB-107) Prob. Adj. Royalties - 4.5%												\$ 2,278	\$ 4,860	\$ 6,910.31	\$ 7,518	\$ 7,214	\$ 8,859	\$ 8,100	\$ 7,062	\$ 5,822	
Associate Milestones																					
Cyprum - CUTX-101 Menke's Disease - Prob. Adj. Royalties - 4.5%												\$ 1,013	\$ 3,038	\$ 5,063	\$ 7,088	\$ 8,100	\$ 8,100	\$ 8,100	\$ 8,100	\$ 8,100	
Associate Milestones												\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	
Checkpoint (Cosibelmab PD-L1) - Prob. Adj. Royalties - 4.5%															\$ 1,348	\$ 4,235	\$ 8,470	\$ 12,705	\$ 16,940	\$ 21,175	
Associate Milestones																					
Checkpoint (CK-101 - TKI) - Prob. Adj. Royalties - 4.5%													\$ 7,323	\$ 14,645	\$ 17,574	\$ 20,503	\$ 21,968	\$ 23,432	\$ 24,897	\$ 26,361	
Associate Milestones																					
<b>Total Royalties &amp; Milestones</b>	-	-	-	-	-	-	-	-	-	-	-	13,291	25,220	36,618	43,527	50,052	57,397	62,337	66,999	71,458	
<b>Expenses:</b>																					
<b>Fortress:</b>																					
Costs of Goods Sold (Journey Medical)	10,532	3,810	3,124	3,379	3,801	14,114	1,735	1,961	1,810	2,037	7,543	8,297	9,127	10,040	11,044	12,148	13,363	14,899	16,169	17,786	
%COGS	29%	32%	33%	33%	33%	34%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	
<b>Research and Development (Consolidated)</b>	75,236	14,867	15,703	13,298	21,329	78,998	19,078	19,907	21,566	22,396	82,948	87,095	91,450	96,022	100,823	105,865	111,158	116,716	122,552	128,679	
Fortress		678	692	705	705	2,780															
Avenue		697	1,219	466																	
Checkpoint		2,635	3,029	2,543																	
Mustang		9,251	9,771	7,925																	
Other**		1,606	-	-	-	1,606															
Research and Development- licenses acquired	6,090	250	1,570			8,000	2,760	2,880	3,120	3,240	12,000	16,000	16,800	17,640	18,522	19,448	20,421	21,442	22,514	23,639	
<b>General and Administrative (Consolidated)</b>	55,590	15,519	14,456	15,383	11,344	56,702	14,459	15,037	13,302	15,037	57,836	58,993	60,172	61,376	62,603	63,855	65,133	66,435	67,764	69,119	
Fortress		5,663	5,776	5,892	6,010	23,341															
Avenue		577	684	571																	
Checkpoint		1,553	1,496	1,573																	
Journey Medical Corp. (SG&A)		5,689	5,746	5,803	5,861	23,100															
Mustang		1,769	1,917	1,640																	
Other**		268	458	459		1,184															
<b>Total Operating expenses</b>	147,448	34,446	34,853	32,518	36,474	138,291	38,032	39,786	39,799	42,710	160,326	170,385	177,649	185,078	192,992	201,316	210,074	219,292	228,998	239,223	
<b>Total Operating expenses (Adjusted)</b>	17,714	15,338	16,238	16,835	16,835	66,125															
<b>Operating Income (Loss)</b>	110,819	(21,528)	(25,396)	(23,043)	(24,540)	(94,506)	(28,882)	(29,484)	(30,230)	(31,948)	(120,544)	(78,122)	52,534	191,510	297,556	377,386	437,495	479,425	519,514	554,881	
<b>Operating Income (Loss) adjusted</b>	-	(4,796)	(5,881)	-	(22,339)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest income (expense), net	2,559	627	336	265	250	2,687	649	677	734	762	2,821	2,962	3,110	3,266	3,429	3,601	3,781	3,970	4,168	4,377	
Interest expense and financing fee	(11,849)	(3,125)	(3,059)	(6,958)	(12,441)	(12,441)	(3,005)	(3,135)	(3,397)	(3,527)	(13,064)	(13,717)	(14,403)	(15,123)	(15,879)	(16,673)	(17,506)	(18,382)	(19,301)	(20,266)	
Change in FV of derivative liability			(344)	(803)		(1,147)															
Change in FV of subsidiary convertible note																					
Change in FV of investments	(27)	(42)		575	533																
Gain on deconsolidation of Caelum	18,476																				
<b>Total Other Income</b>	8,159	(2,540)	(3,067)	(6,921)	250	(10,369)	(2,356)	(2,458)	(2,663)	(2,765)	(10,242)	(10,754)	(11,292)	(11,857)	(12,448)	(13,072)	(13,726)	(14,412)	(15,132)	(15,889)	
<b>Pre-tax Income (Loss) from continuing operations</b>	(101,660)	(24,068)	(28,463)	(29,964)	(24,290)	(127,214)	(31,238)	(31,942)	(32,893)	(34,713)	(130,786)	(88,877)	41,242	179,653	285,107	364,314	423,769	465,013	504,382	538,932	
Income Tax Benefit (Provision)														17,965	42,766	65,577	84,754	97,653	116,000	134,748	
<b>Tax Rate</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	15%	18%	20%	21%	23%	25%	
<b>GAAP Net Income (Loss)</b>	(101,660)	(24,068)	(28,463)	(29,964)	(24,290)	(127,214)	(31,238)	(31,942)	(32,893)	(34,713)	(130,786)	(88,877)	41,242	161,688	242,341	298,738	339,015	367,360	388,374	404,244	
<b>Adjusted (Non-GAAP) Loss</b>		(7,336)	(8,948)	(13,683)	(4,651)	(34,617)															
Less: net loss attributable to non-controlling interests	61,700	11,698	15,149	14,417	14,000	55,264	13,346	13,927	15,087	15,667	58,027	56,286	52,909	49,735	46,751	43,946	41,309	38,830	36,500	34,310	
<b>Net Income (Loss) attributable to common stockholders</b>	(39,960)	(12,370)	(13,314)	(15,547)	(10,290)	(51,530)	(17,891)	(18,015)	(17,806)	(19,046)	(72,759)	(32,590)	94,151	211,423	289,091	342,883	380,324	406,190	424,575	438,554	
<b>GAAP-EPS</b>	(0.73)	(0.19)	(0.19)	(0.20)	(0.14)	(0.73)	(0.23)	(0.24)	(0.23)	(0.25)	(0.95)	(0.43)	1.22	2.74	3.73	4.40	4.86	5.17	5.39	5.54	
GAAP-EPS (Dil)	(0.60)	(0.19)	(0.19)	(0.20)	(0.14)	(0.73)	(0.23)	(0.24)	(0.23)	(0.25)	(0.95)	(0.43)	1.22	2.74	3.73	4.40	4.86	5.17	5.39	5.54	
Adjusted Non-GAAP EPS (DIL)		(0.12)	(0.13)	(0.18)	(0.06)	(0.49)															
Wght Avg Shrs (Bas) - '000s	54,711	63,496	68,550	76,093	76,169	71,077	76,245	76,													

**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).

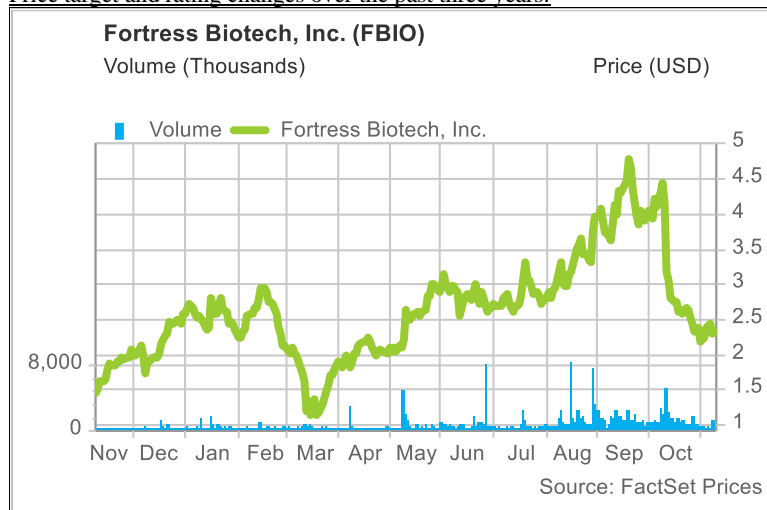
Cyprium Therapeutics (Private).



**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
- Price Target Change – Buy October 12, 2020, Price Target \$15.00
- Update – Buy October 20, 2020, Price Target \$15.00
- Price Target Change – Buy November 10, 2020, Price Target \$16.00

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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)	22	81%	4	18%
Market Perform (Neutral)	5	19%	1	20%
Market Underperform (Sell)	0	0%	0	0%
Total	27	100%	5	19%

**Analyst Certification:**

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