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ContraFect Corp. (CFRX-NASDAQ)

CFRX: Raises $53.7 Million in Public Offering…

Based on our updated probability adjusted DCF model that takes into account potential future revenues from CF-301 in bacteremia along with the lysin pipeline, our valuation of CFRX is $23/share. This model is highly dependent upon continued clinical success of CF-301 and additional lysin products and will be adjusted accordingly based upon future clinical results.

Current Price (04/09/21)	$4.31
Valuation	**$23.00**

OUTLOOK

On March 22, 2021, ContraFect Corp. (CFRX) announced the closing of a public offering and the full exercise of the underwriters' option to purchase additional shares in which the company sold a total of 11.5 million shares at a price of $5.00 per share for net proceeds of approximately $53.7 million. This follows the company receiving a contract from BARDA for $9.8 million in initial funding and up to an additional $77 million to support the development of exebacase, which is currently being evaluated in the Phase 3 DISRUPT trial. We anticipate an interim futility analysis being conducted in the second half of 2021, with topline data for the full study population available in 2022. With the recent financing and BARDA contract the company is in a strong financial position to advance exebacase and the rest of the pipeline, including CF-370 for the treatment of Pseudomonas aeruginosa infections and the amurin platform.

SUMMARY DATA

52-Week High	**$7.81**
52-Week Low	**$4.20**
One-Year Return (%)	**-27.44**
Beta	**0.95**
Average Daily Volume (sh)	**2,426,984**
Shares Outstanding (mil)	**39**
Market Capitalization ($mil)	**$170**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**44**
Insider Ownership (%)	**4**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**N/A**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/A**
P/E using 2019 Estimate	**-2.8**
P/E using 2020 Estimate	**-4.2**

Risk Level	**Above Avg.**
Type of Stock	**Small-Growth**
Industry	**Med-Drugs**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2020	0 A	0 A	0 A	0 A	0 A
2021	0 E	0 E	0 E	0 E	0 E
2022					0 E
2023					0 E

Earnings per Share

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2020	-$0.49 A	-$0.88 A	$0.12 A	-$0.23 A	-$1.24 A
2021	-$0.26 E	-$0.22 E	-$0.24 E	-$0.26 E	-$0.97 E
2022					-$1.02 E
2023					-$1.00 E

WHAT'S NEW

Financial Update

On March 30, 2021, ContraFect Corp. (CFRX) announced financial results for the fourth quarter and full year 2020. As expected, the company did not report any revenues for the fourth quarter or full year 2020. Net loss for the fourth quarter of 2020 was $6.4 million, or $0.23 per share, compared to a net loss of $10.4 million, or $1.11 per share, for the fourth quarter of 2019. R&D expenses in the fourth quarter of 2020 were $7.3 million compared to $3.9 million in the fourth quarter of 2019. The increase was primarily due to the Phase 3 DISRUPT trial and the initiation of CMC activities. G&A expenses in the fourth quarter of 2020 were $3.4 million compared to $2.6 million in the fourth quarter of 2019. The increase was primarily due to increased compensation and legal fees.

For 2020, the company reported a net loss of $28.2 million, or $1.24 per share, compared to a net loss of $12.8 million, or $1.54 per share, for 2019. The decrease in net loss per share is due to an increase in the weighted average shares outstanding along with a decrease of $6.7 million in the non-cash gain for the change in fair value of warrant liabilities. R&D expenses in 2020 were $22.6 million compared to $18.1 million for 2019. The increase was primarily due to activities surrounding the DISRUPT trial along with small-scale manufacturing for CF-370 and CF-296. G&A expenses in 2020 were $11.6 million compared to $9.8 million in 2019. The increase was primarily due to increases in compensation and insurance costs.

As of December 31, 2020, ContraFect had approximately $42.5 million in cash and cash equivalents. Subsequent to the end of the year, the company raised net proceeds of approximately $53.7 million from a public offering of 11.5 million shares of stock at a purchase price of $5.00 per share, which included 1.5 million shares sold pursuant to the underwriters' exercise in full of their option to purchase additional shares. We estimate that the company will exit the first quarter of 2021 with approximately $88 million in cash and cash equivalents, which does not include the BARDA contract (see below).

As of March 24, 2021, the company had approximately 39.3 million shares outstanding and, when factoring in stock options and warrants, a fully diluted share count of approximately 53.5 million.

Business Update

BARDA Contract to Support Development of Exebacase

On March 11, 2021, ContraFect announced an $86.8 million contract with the Biomedical Advanced Research and Development Authority (BARDA) that will support the ongoing Phase 3 DISRUPT (Direct Lysis of *Staph aureus* Resistant Pathogen Trial) trial of exebacase in patients with *Staphylococcus aureus* bacteremia, including right-sided endocarditis. The company will receive an initial tranche of $9.8 million with up to $77.0 million in future support being dependent on progress and clinical success in the DISRUPT trial. Following completion of the trial, and assuming a positive outcome, the BARDA funding can be used to support additional development work that may be necessary for FDA approval, including manufacturing and regulatory activities. It could also cover any post-approval commitments, such as the completion of the pediatric study.

The DISRUPT trial is a randomized, double blind, placebo controlled study being conducted at over 40 centers in the U.S. and will enroll approximately 350 patients randomized 2:1 to receive either exebacase or placebo, with all patients receiving standard of care antibiotics. The ongoing coronavirus pandemic has resulted in a delay in patient enrollment due to hospitals struggling with an influx of COVID-19 patients in intensive care units. However, the rollout of highly effective COVID-19 vaccines should lead to a decrease in hospital burden as the year progresses and an increase in patient enrollment into the DISRUPT trial. A preplanned interim futility analysis is scheduled to take place after the first 60% of patients enrolled into the trial are evaluable for efficacy.

The primary endpoint of the trial is clinical response at Day 14 in patients with methicillin-resistant *S. aureus* (MRSA) bacteremia, including right-sided endocarditis. Clinical response is defined using objective clinical criteria including: 1) resolution of *S. aureus* bacteremia/right-sided endocarditis signs and symptoms that were present at baseline; 2) no new signs or symptoms of bacteremia/right-sided endocarditis; 3) no complications of bacteremia/right-sided endocarditis; 4) no changes in anti-staphylococcal antibiotics after treatment with study drug due to persistence, worsening, or recurrence of signs or symptoms of bacteremia/right-sided endocarditis; 5) blood

cultures negative for *S. aureus* by Day 14; and 6) the patient is alive. Clinical response is being determined by an independent, blinded clinical adjudication committee.

Key secondary endpoints include clinical response rate at Day 14 for all *S. aureus* bacteremia patients (including both MRSA and methicillin-sensitive *S. aureus* [MSSA]), 30-day all-cause mortality in MRSA patients, and clinical response at Day 60. The company will also evaluate the impact of treatment with exebacase on length of hospital stay, length of stay in the intensive care unit, and 30-day readmission rates for both all-cause and *S. aureus* infection readmissions.

The following table shows the statistical parameters for the primary efficacy endpoint and key secondary efficacy endpoints from the trial. The primary endpoint is 86% powered to show a 28% increase in clinical response rate at Day 14 with the use of exebacase plus standard of care antibiotics compared to standard of care antibiotics alone.

	Primary Efficacy Endpoint: Clinical Response at Day 14 (MRSA Patients)	**Secondary Efficacy Endpoint: Clinical Response at Day 14 (All *Staph aureus* Patients)**	**Secondary Efficacy Endpoint: Mortality (MRSA Patients)**
Target difference	28% increase over SOC antibiotics alone	16% increase over SOC antibiotics alone	17% decrease from SOC antibiotics alone
Power	86%	83%	80%
Sample size	135 patients	339 patients	135 patients

Source: ContraFect Corp.

Longitudinal Study Shows Changes in Bacteremia Rates/Severity

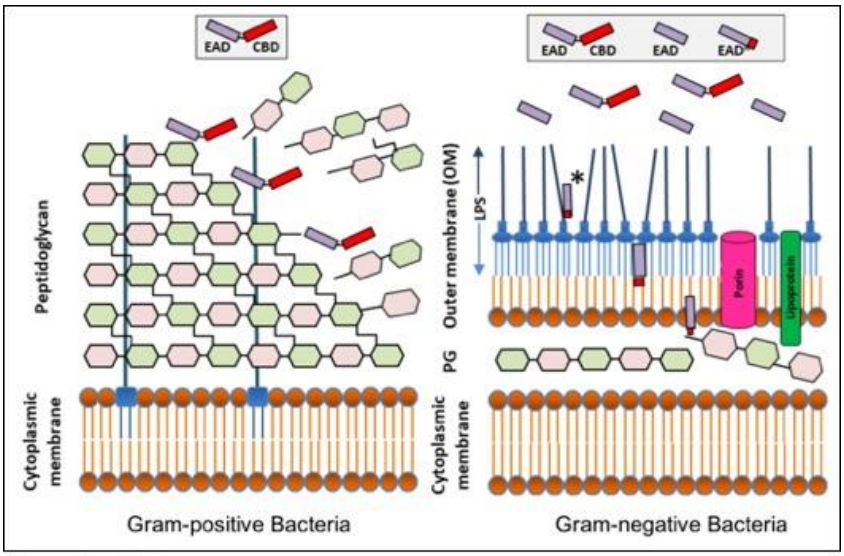
S. aureus bacteremia, including MRSA, is increasing in prevalence and severity. A 21-year longitudinal study of *S. aureus* bacteremia patients at Duke University Medical Center was conducted from January 1995 to December 2015 (Souli *et al*., 2019). A total of 2,348 unique patients were analyzed in the study and the initial *S. aureus* isolate was genotyped. During the study period, overall metastatic infections increased by 0.9% annually (*P*=0.019), which was driven by significant annual increases in abscesses, vertebral osteomyelitis, epidural abscesses, septic thrombophlebitis, endocarditis, and septic emboli. Of the 2,348 unique S. aureus isolates, 1,126 (48%) were MRSA.

A multivariate analysis showed that the USA300 strain was significantly associated with a higher risk for overall metastatic complications (OR 1.42, 95% CI 1.02–1.99), including septic emboli and persistent bacteremia even after for adjusting for variables such as age, gender, race, and comorbidities. USA300 was first identified in the 1990 and has quickly become the dominant MRSA strain in North America and the most common MRSA subtype isolated from bloodstream infections in some parts of the U.S. (Seybold *et al*., 2006; Diekema *et al*., 2014).

Another confounding factor noted during the study period was the overall decrease in health of patients in 2015 compared to 1995, including increased rates of various co-morbidities such as diabetes, cancer, transplantation, rheumatoid arthritis, and corticosteroid usage. Why patients with *S. aureus* bacteremia is unknown, but could be related to the increasing prevalence of those conditions, increasing life expectancy of patients suffering from those conditions, and/or increasing use of advanced procedures that predispose patients to *S. aureus* bacteremia. Regardless, patients with co-morbidities have an increased risk of negative outcomes associated with *S. aureus* bacteremia, particularly MRSA, and the increased incidence of high-risk co-morbidities underscores the notion that new and more effective treatment options are necessary for bacteremia patients.

CF-370 Update

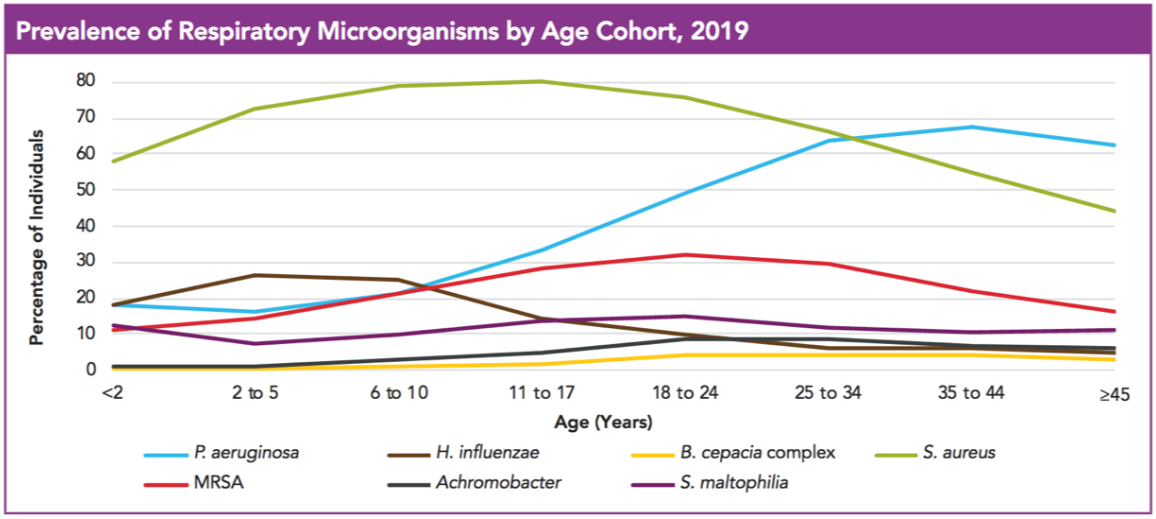
CF-370 is the company's lead engineered lysin development candidate targeting *Pseudomonas aeruginosa*, a Gram-negative bacterial species. The following figure shows how lysins are effective against Gram-positive bacteria due to their ability to easily interact with the peptidoglycan layer. However, Gram-negative bacteria have an outer membrane that acts as a barrier against most lysins, thus preventing them from reaching the peptidoglycan layer. While the majority of purified Gram-negative lysins have no antimicrobial activity, there are a select few that have some activity in low ionic strength buffers (indicated by the asterisk in the following figure on the right). It is these lysins that ContraFect used as lead compounds to modify in order to increase their anti-microbial activity, with CF-370 emerging as the lead candidate from this research.



Source: ContraFect Corp.

In mid-2020, ContraFect announced an award of up to $18.9 million from CARB-X (Combating Antibiotic Resistant Bacteria Biopharmaceutical Accelerator), a global non-profit partnership dedicated to supporting the development of new antibacterial treatments, to support the IND-enabling activities for CF-370. The award is for an initial funding of $4.9 million, with additional funds dispersed based upon project milestones. IND-enabling studies are currently ongoing and we anticipate a Phase 1 trial initiating in the first half of 2022.

In addition, ContraFect also entered into an initial funding agreement with the Cystic Fibrosis Foundation to study the effect of using direct lytic agents against Gram-negative pathogens that commonly afflict cystic fibrosis (CF) patients. The following chart, derived from the 2019 Cystic Fibrosis Foundation Patient Registry, shows that *P. aeruginosa* makes up a considerable proportion of lung infections in CF patients, particularly as they get older. These infections are very difficult to treat, thus necessitating the need for improved therapeutics.



Source: CF Patient Registry, 2019

Conclusion

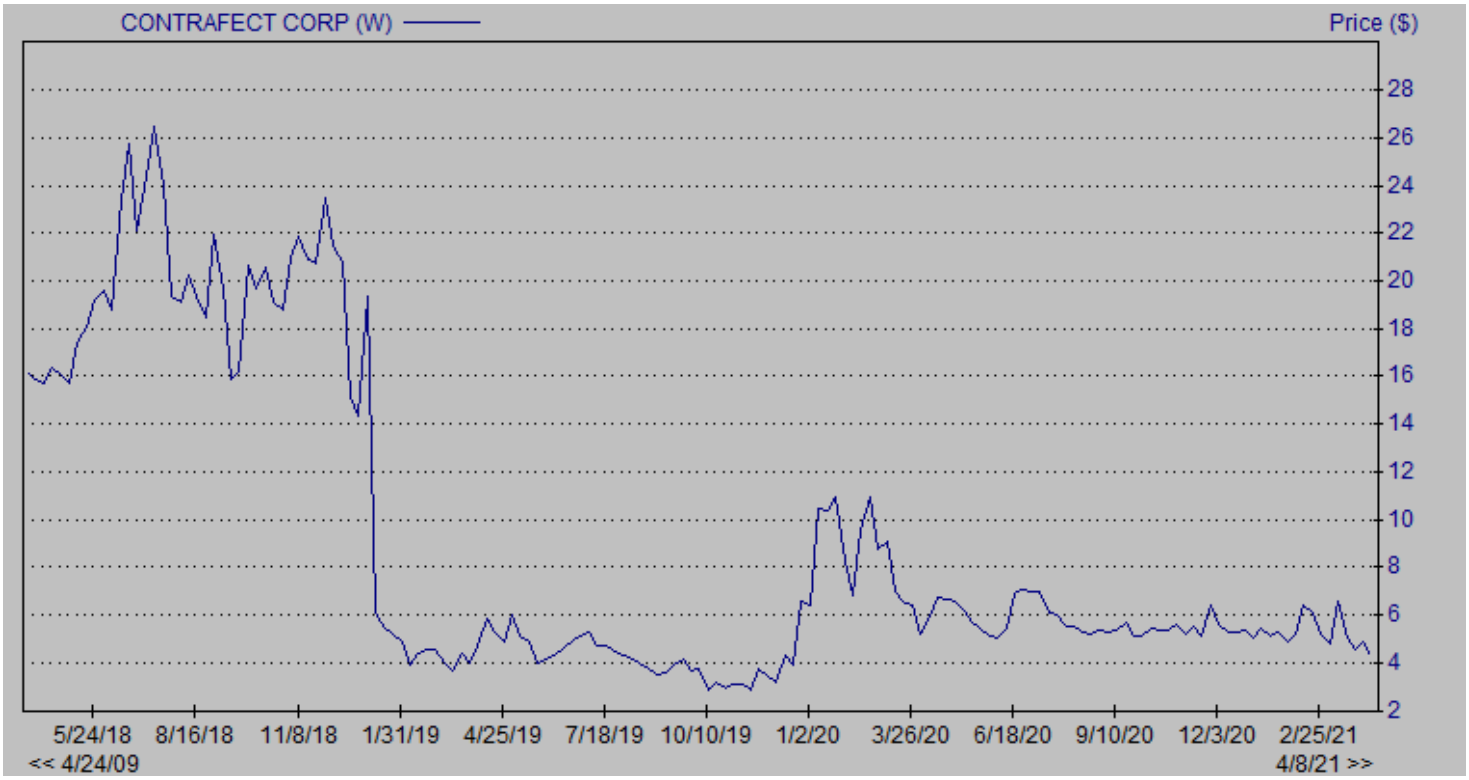
ContraFect has a number of important milestones coming up with year and the recent financing has further strengthened the balance sheet to carry the company through those milestones and beyond. We anticipate the results of an interim futility analysis for the DISRUPT trial in the second half of 2021. In addition, we anticipate a Phase 2 trial in patients with *S. aureus* prosthetic joint infections initiating this year. After incorporating the recent financing into our model, we have reduced our valuation slightly to $23 per share, however ContraFect remains one of our top picks in the anti-infective space.

PROJECTED FINANCIALS

ContraFect Corp.	2020 A	Q1 E	Q2 E	Q3 E	Q4 E	2021 E	2022 E	2023 E
CF-301 (Bacteremia)	$0	$0	$0	$0	$0	$0	$0	$0
YOY Growth		-	-	-	-			
Grants & Collaborative Revenue	$0	$0	$0	$0	$0	$0	$0	$0
YOY Growth		-	-	-	-			
Total Revenues	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
YOY Growth		-	-	-	-			
Cost of Sales	$0	$0	$0	$0	$0	$0	$0	$0
Product Gross Margin		-	-	-	-			
Research & Development	$22.6	$5.5	$6.0	$6.5	$7.0	$25.0	$30.0	$35.0
General & Administrative	$11.6	$3.0	$3.3	$3.6	$3.9	$13.8	$15.0	$17.0
Other Expenses	$0	$0	$0	$0	$0	$0	$0	$0
Operating Income	($34.2)	($8.5)	($9.3)	($10.1)	($10.9)	($38.8)	($45.0)	($52.0)
Operating Margin		-	-	-	-			
Non-Operating Expenses (Net)	$6.1	$0.5	$0.5	$0.5	$0.5	$2.0	$2.0	$2.0
Pre-Tax Income	($28.2)	($8.0)	($8.8)	($9.6)	($10.4)	($36.8)	($43.0)	($50.0)
Income Taxes Paid	$0	$0	$0	$0	$0	$0	$0	$0
Tax Rate	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
Net Income	**($28.2)**	**($8.0)**	**($8.8)**	**($9.6)**	**($10.4)**	**($36.8)**	**($43.0)**	**($50.0)**
Net Margin		-	-	-	-			
Reported EPS	**($1.24)**	**($0.26)**	**($0.22)**	**($0.24)**	**($0.26)**	**($0.97)**	**($1.02)**	**($1.00)**
YOY Growth		-	-	-	-			
Basic Shares Outstanding	22.8	31.0	39.5	40.0	40.5	37.8	42.0	50.0

Source: Zacks Investment Research, Inc. *David Bautz, PhD*

HISTORICAL STOCK PRICE



Source: Zacks Investment Research

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