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ContraFect Corp. (CFRX-NASDAQ)

CFRX: Phase 3 DISRUPT Trial Underway…

Based on our probability adjusted DCF model that takes into account potential future revenues from CF-301 in bacteremia along with the lysin pipeline, CFRX is valued at $3/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 (01/20/20)	$1.04
Valuation	**$3.00**

OUTLOOK

ContraFect Corp. (CFRX) is developing exebacase for the treatment of patients with bacteremia caused by *Staphylococcus aureus*. The company recently initiated the Phase 3 DISRUPT trial, which is anticipated to enroll approximately 350 patients randomized 2:1 to receive exebacase or placebo in addition to standard of care antibiotics for methicillin-resistant *S. aureus* (MRSA) bacteremia, including right-sided endocarditis. An interim analysis will be performed once the first 60% of patients enrolled into the trial are evaluable for efficacy.

The company also recently announced it has treated four patients in France with refractory prosthetic joint infections (PJIs) with exebacase under Temporary Authorizations for Use from the French National Agency for Medicines and Health Products Safety. Based on promising clinical signals from those four patients, the temporary use of exebacase is being extended to additional patients with PJIs shortly after surgery.

SUMMARY DATA

52-Week High	**$1.23**
52-Week Low	**$0.29**
One-Year Return (%)	**89.78**
Beta	**0.51**
Average Daily Volume (sh)	**2,697,053**
Shares Outstanding (mil)	**153**
Market Capitalization ($mil)	**$159**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**16**
Insider Ownership (%)	**3**
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	**-2.6**
P/E using 2020 Estimate	**-2.7**

Risk Level	**High**
Type of Stock	**Small-Growth**
Industry	**Med-Drugs**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2018	0 A	0 A	0 A	0 A	0 A
2019	0 A	0 A	0 A	0 E	0 E
2020					0 E
2021					0 E

Earnings per Share

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2018	-$0.26 A	-$0.27 A	-$0.06 A	$0.07 A	-$0.50 A
2019	$0.15 A	-$0.11 A	-$0.07 A	-$0.08 E	-$0.12 E
2020					-$0.36 E
2021					-$0.39 E

WHAT'S NEW

Business Update

Phase 3 DISRUPT Trial Underway

On January 10, 2020, ContraFect Corp. (CFRX) announced the first patient has been dosed in the Phase 3 DISRUPT (Direct Lysis of *Staph aureus* Resistant Pathogen Trial) study of exebacase in patients with *Staphylococcus aureus* bacteremia, including right-sided endocarditis (NCT04160468). The randomized, double blind, placebo controlled trial is being conducted at 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 primary endpoint of the trial will be clinical response at Day 14 in patients with methicillin-resistant *S. aureus* (MRSA) bacteremia, including right-sided endocarditis. 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. An interim futility analysis will be conducted after the first 60% of patients enrolled into the trial are evaluable for efficacy.

Compassionate Use of Exebacase in France

On January 13, 2020, ContraFect announced that four patients with post-operative prosthetic joint infections (PJIs) have been treated with exebacase under Temporary Authorizations for Use from the French National Agency for Medicines and Health Products Safety in collaboration with Dr. Tristan Ferry at the Hôpital de la Croix Rousse in Lyon, France.

The patients that have been treated thus far had longstanding, treatment refractory PJIs. Following treatment, the promising signals seen in these patients has led to the temporary authorization to use exebacase being extended to patients with *Staphylococcal* PJI that occurs shortly after surgery to hopefully avoid significant damage to the joint.

Biofilm formation in prosthetic joints is a very challenging infection to clear with traditional antibiotics, which typically leads to additional surgery and possibly replacement of the joint to ultimately get rid of the infection. The company has previously shown exebacase is able to rapidly clear biofilms, as shown in the following figures, thus we view the application of the drug in treating difficult-to-clear prosthetic infections as a natural next step in its development life cycle.

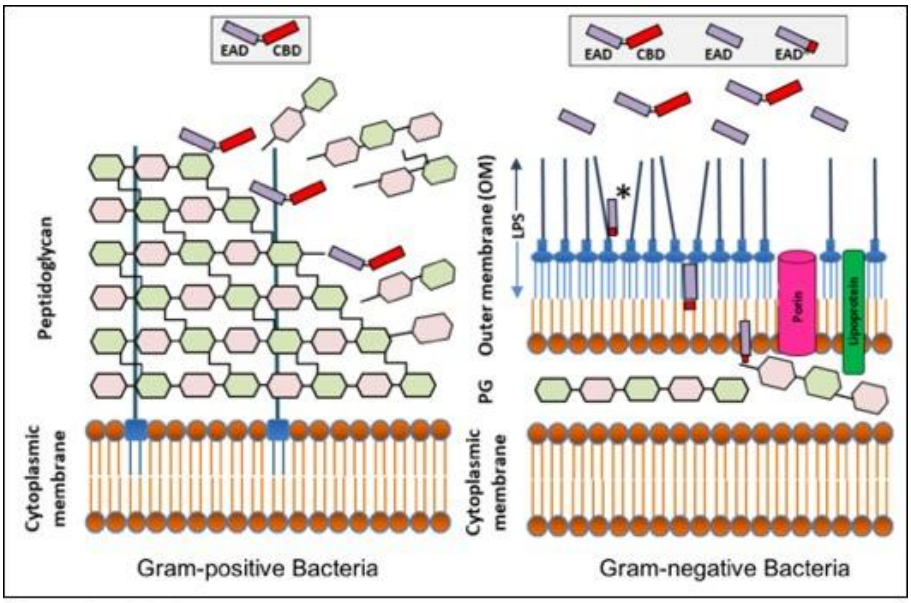
Source: ContraFect Corp.

First Gram-Negative Lysin Candidate Announced

In December 2019, ContraFect announced it has selected its next development product candidate, CF-370, which is an engineered lysin targeting *Pseudomonas aeruginosa*, a Gram-negative bacterial species that is listed as a serious threat in the Centers for Disease Control and Prevention (CDC) 2019 Antibiotic Resistance Threats Report. Gram-negative bacteria are responsible for a number of different bacterial infections and the emergence of antibiotic resistant strains is leading to a potential public health crisis. Lysins represent a novel means to treat these infections through their ability to cleave peptidoglycan bonds (peptidoglycan is the main structural component of bacterial cell walls), however their use against Gram-negative pathogens has been hindered by their inability to penetrate the outer membrane.

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 a preclinical rabbit pneumonia model, a single dose of CF-370 either alone or in combination with meropenem resulted in increased survival and reductions in bacterial counts in lung, kidney, and spleen. The company will be presenting this and other detailed preclinical data supporting the advancement of CF-370 at an upcoming scientific conference.

Financial Update

On December 17, 2019, ContraFect announced the pricing of an underwritten public offering in which the company sold 25.65 million shares at a public offering price of $0.39 per share. The net proceeds from the offering were expected to be approximately $9.2 million. This follows another approximately $10 million public offering that was announced a week prior that included selling approximately 11.1 million shares to Pfizer, Inc. (PFE) in a direct offering. We anticipate that following these financings the company will have sufficient capital to fund operations into the third quarter of 2020.

Conclusion

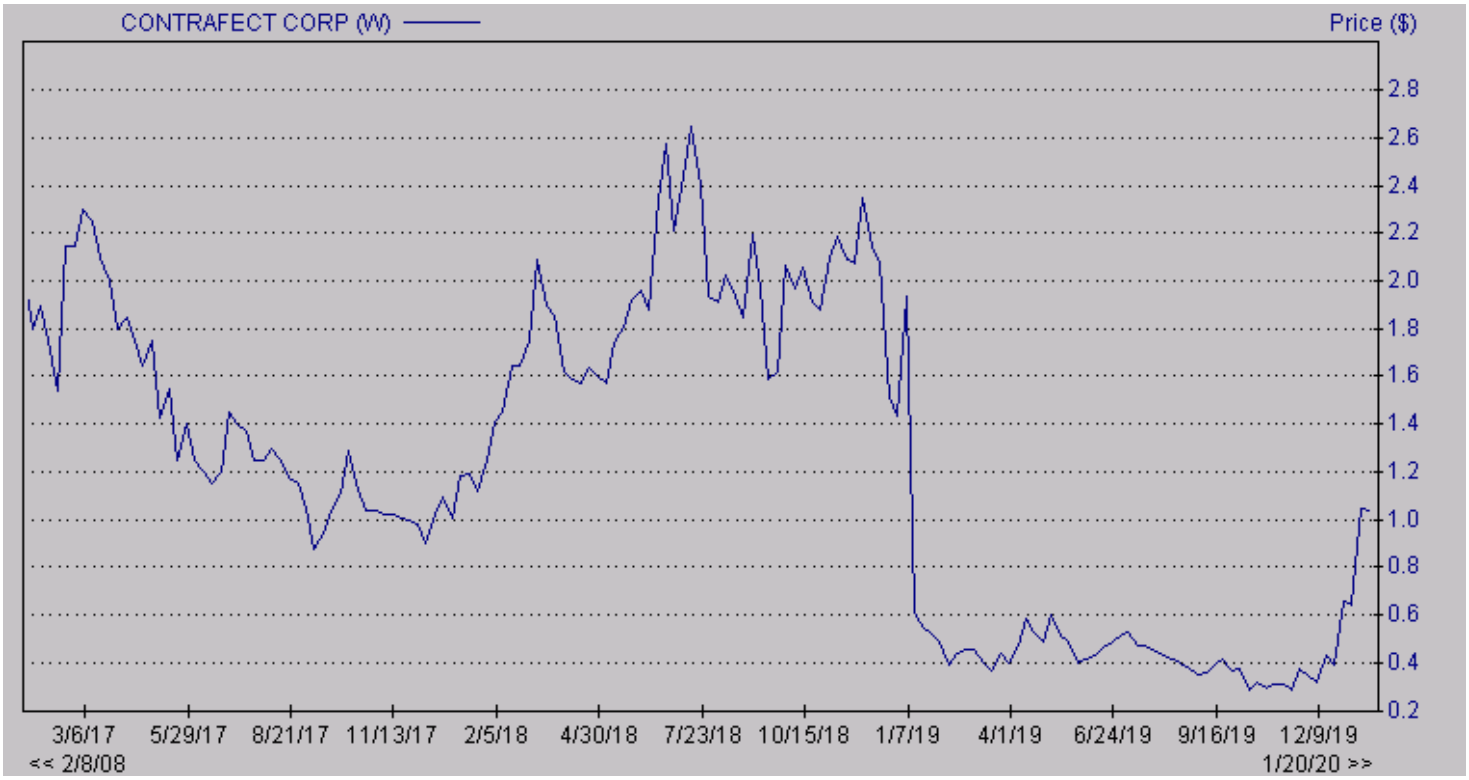
We're glad to see the company has dosed the first patient in the DISRUPT trial and we anticipate the company issuing guidance on when the interim analysis may occur after additional patients enter the trial and the enrollment rate can be better estimated. With the same primary endpoint as the Phase 2 trial, we believe there is a very high likelihood for success in the Phase 3 trial. We had already accounted for the need to raise additional capital to fund the Phase 3 trial in our model, thus there is no change to our current valuation of $3 per share.

PROJECTED FINANCIALS

ContraFect Corp.	2018 A	Q1 A	Q2 A	Q3 A	Q4 E	2019 E	2020 E	2021 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	$22.4	$4.1	$4.8	$5.3	$5.3	$19.5	$24.0	$28.0
General & Administrative	$8.7	$2.3	$2.6	$2.4	$2.3	$9.5	$9.5	$10.0
Other Expenses	$0	$0	$0	$0	$0	$0	$0	$0
Operating Income	($31.1)	($6.4)	($7.4)	($7.6)	($7.6)	($29.0)	($33.5)	($38.0)
Operating Margin		-	-	-	-			
Non-Operating Expenses (Net)	($6.6)	$17.9	($1.3)	$2.3	$0.0	$19.0	$0.0	$0.0
Pre-Tax Income	($37.7)	$11.6	($8.7)	($5.4)	($7.6)	($10.0)	($33.5)	($38.0)
Income Taxes Paid	$0	$0	$0	$0	$0	$0	$0	$0
Tax Rate	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
Net Income	**($37.7)**	**$11.6**	**($8.7)**	**($5.4)**	**($7.6)**	**($10.0)**	**($33.5)**	**($38.0)**
Net Margin		-	-	-	-			
Reported EPS	**($0.50)**	**$0.15**	**($0.11)**	**($0.07)**	**($0.08)**	**($0.12)**	**($0.36)**	**($0.39)**
YOY Growth		-	-	-	-			
Basic Shares Outstanding	76.1	79.4	79.4	79.4	91.0	82.3	92.0	98.0

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

HISTORICAL STOCK PRICE



Source: Zacks Investment Research

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