

## RXi Pharmaceuticals Corp

(RXII - NASDAQ)

### Soldiering On as We Wait for Bids

Based on our DCF model and a 15% discount rate, RXi Pharmaceuticals is valued at approximately \$2.00 per share. Our model applies a 15% probability of ultimate approval and commercialization for RXI-109 and Samcyprone. The model includes contributions from the US, EU and rest of world.

Current Price (11/16/2018) **\$0.33**  
**Valuation \$2.00**

### OUTLOOK

RXi Pharmaceuticals has developed a unique composition of interference RNA that is able to self-deliver into the cellular cytoplasm. The compound, sd-rxRNA, combines features of RNAi and antisense, and is able to silence unwanted gene expression with a limited side effect profile.

The company has two Phase II dermal assets and one Phase I/II ocular asset which are expected to be partnered and provide development capital for earlier stage immuno-oncology (IO) programs.

RXi recently directed its primary research focus towards its preclinical IO program that is being developed to augment existing cell therapies. A favorable investment and regulatory environment are supportive of IO and should allow for rapid entry into the clinic.

We attach a valuation for the Phase I/II and Phase II assets and expect to see regulatory approvals and subsequent commercialization over the 2022 to 2024 period as described in our analysis.

## SUMMARY DATA

52-Week High **7.70**  
 52-Week Low **0.31**  
 One-Year Return (%) **-94.2**  
 Beta **2.90**  
 Average Daily Volume (sh) **1,268,287**

Shares Outstanding (mil) **18.2**  
 Market Capitalization (\$mil) **6.1**  
 Short Interest Ratio (days) **0.43**  
 Institutional Ownership (%) **10.1**  
 Insider Ownership (%) **3.78**

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 2018 Estimate **N/A**  
 P/E using 2019 Estimate **N/A**

Zacks Rank **N/A**

Risk Level **Above Average**  
 Type of Stock **Small-Growth**  
 Industry **Med-Biomed/Gene**

## ZACKS ESTIMATES

### Revenue

(In millions of USD)

	Q1	Q2	Q3	Q4	Year
	(Mar)	(Jun)	(Sep)	(Dec)	(Dec)
2017	\$0.0 A				
2018	\$0.0 A	\$0.1 A	\$0.1 A	\$0.0 E	\$0.1 E
2019					\$0.0 E
2020					\$0.0 E

### Earnings per Share

	Q1	Q2	Q3	Q4	Year
2017	-\$2.65 A	-\$1.12 A	-\$1.05 A	-\$0.84 A	-\$5.52 A
2018	-\$0.90 A	-\$0.46 A	-\$0.34 A	-\$0.11 E	-\$1.81 E
2019					-\$0.36 E
2020					-\$0.48 E

## WHAT'S NEW

RXi Pharmaceuticals Corp. (NASDAQ: RXII) [reported](#) third quarter results and filed its [Form 10-Q](#) on November 14, 2018. The company disclosed its quarterly performance and highlighted the financial and scientific events that occurred during the period. In August, [topline results](#) from the retinal scarring trial were presented, which launched the effort to seek a partner or buyer for the company's two Phase II assets. Patent awards, collaborations, pre-clinical advances in the immuno-oncology programs and a financing that opens a runway until 2020 rounded out other key events from June 30 to date.

In conjunction with the third quarter release, the company has also announced a name change to PHIO Pharmaceuticals and a change of ticker symbol to PHIO. We anticipate this will take place in the next few trading days. The PHIO name brings attention to the company's immuno-oncology (IO) focus.

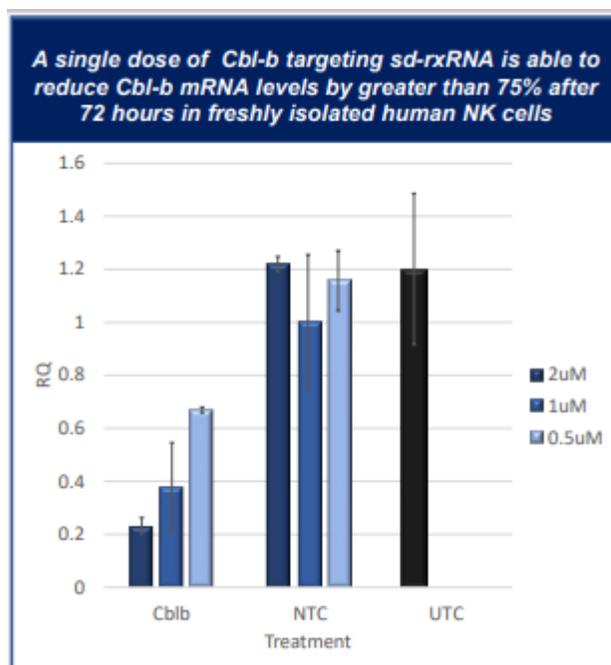
Financial results for 3Q:18 show a continued deceleration in spending as the Phase II trials wind down and RXi focuses on pre-clinical work. Total expenses dropped 37% over the prior year and 21% sequentially. R&D of \$0.8 million fell 44% as the dermatology and ophthalmology trials were concluded. G&A expenditures were \$0.7 million and contracted 28% on lower payroll-related expenses and a reduction in headcount.

As of September 30, 2018, cash stood at \$3.2 million and debt remained at zero. Cash burn was (\$2.0) million in the quarter and (\$5.8) million for the first nine months of the year. On October 3<sup>rd</sup>, the company closed an underwritten public offering of 3.7 million shares and warrants and an additional 17.7 million pre-funded units raising approximately \$13.3 million. We anticipate additional cash to be added to the balance if further outstanding warrants are exercised.

### Poster Presentation

On September 26, 2018, RXi presented a poster highlighting the use of sd-rxRNA in natural killer (NK) cells for use in hematological cancers. The poster illustrated the ability of the immune effector cells to take up sd-rxRNA without the need for transfection reagents and downregulated Casitas B-lineage Lymphoma-b (Cbl-b) gene, which is a negative regulator of T-cell activation. This is important because NK cells can recognize and kill cancer cells without the need for prior sensitization. They are the first line of defense against cancer cells but, similar to T-cells, have inhibitory receptors that sometimes prevent their cytotoxic activity. The use of sd-rxRNA to reduce these receptors will allow a potent anti-cancer response.

Exhibit I – Relative Quantification (RQ) of Cbl-b Downregulation



The poster also reviewed the viability of sd-rxRNA silencing when exposed to the freeze-thaw cycle and found that it was similar to that of cells that had been transfected for 72 hours without the cycle. This ability allows the sd-rxRNA to be used with existing in-development chimeric antigen receptor (CAR) therapy without changing the administration protocol.

### **Pipeline Candidates**

The following exhibit is the latest pipeline graphic for RXi, which also includes several of the undisclosed compounds in adoptive cell therapy (ACT) and tumor microenvironment. The lead asset is RXI-762, which seeks to increase the expression of PD-1 in cell based therapies. Earlier stage programs are targeting the immune receptor TIGIT in solid tumors among other checkpoints. Cell differentiation is another program that is seeking to extend the life of modified immune cells so they will work longer.

**Exhibit II – Rxi Pipeline**

TREATMENT	INDICATION	DISCOVERY	PRE-IND	CLINICAL
Checkpoint Inhibition in ACT (TILs)	Melanoma	RXI-762		
Checkpoint Inhibition in ACT (TILs)	Ovarian Cancer	RXI-762		
Checkpoint Inhibition in ACT (TILs)	Head & Neck	RXI-762		
Checkpoint Inhibition in ACT (TCRs)	Other	RXI-762		
Checkpoint Inhibition with T-cells	Various	RXI-804		
Checkpoint Inhibition with ACT	Various	RXI-804		
Cell Maturation with ACT	Various	Undisclosed		
Cell Metabolism with ACT	Various	Undisclosed		
Direct Tumor	Melanoma	Undisclosed		
Tumor Microenvironment	Various	Undisclosed		
Tumor Microenvironment	Various	Undisclosed		

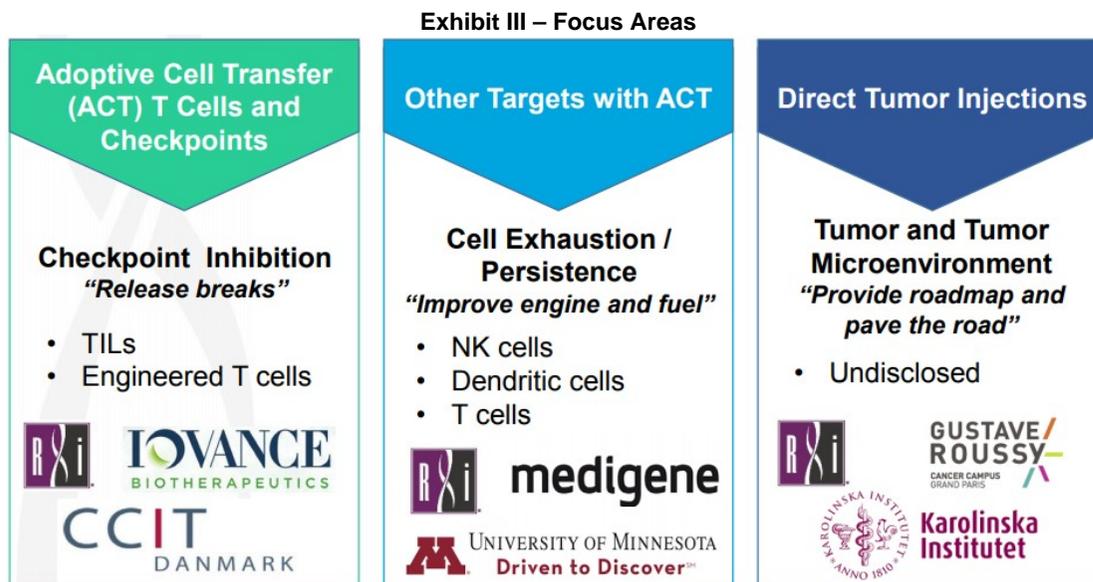
### **2018 Milestones:**

- Equity capital raise – 2Q:18 / 4Q:18
- Patent grant for use of sd-rxRNA targeting CTGF for treatment of fibrotic disorders – May 2018
- Partner Iovance (NASDAQ: IOVA) added for TIL competency – May 2018
- Report of Retinal Scarring trial results – 2Q:18
- Cutaneous Warts study results – May 2018, 2018 at IID
- Retinal Scarring study results – August 2018
- Patents granted in Europe & Japan for sd-rxRNA – August 2018
- Partnership/Sale of Dermatology and Ophthalmology Programs – 2H:18<sup>1</sup>
- Manufacture of clinical grade batch of RXI-762 – 3Q:18
- Entry of Immuno-Oncology Programs into the Clinic – Late 2019

<sup>1</sup> We discuss the Samcyprone and RXI-109 in a previous report found [here](https://s1.q4cdn.com/460208960/files/News/2018/Zacks_SCR_Research_08202018_RXII_Vandermosten.pdf).  
[https://s1.q4cdn.com/460208960/files/News/2018/Zacks\\_SCR\\_Research\\_08202018\\_RXII\\_Vandermosten.pdf](https://s1.q4cdn.com/460208960/files/News/2018/Zacks_SCR_Research_08202018_RXII_Vandermosten.pdf)

## Focus Areas

RXi's efforts are now centered on three areas in immuno-oncology. The first area serves to reduce the expression of immune checkpoints on T-cells in conjunction with adoptive cell therapy (ACT) where sd-rxRNA is used *ex-vivo* to modify the expression of checkpoint proteins on the the T-cell's surface. The second area also is conducted in conjunction with ACT and is used to improve other immune cells such as natural killer (NK) cells. This program also seeks to improve the function, fitness and persistence of immune cells, allowing them to fulfill their purpose with more endurance than they would without sd-rxRNA. The third area uses the company's proprietary technology to directly influence the tumor macro environment.

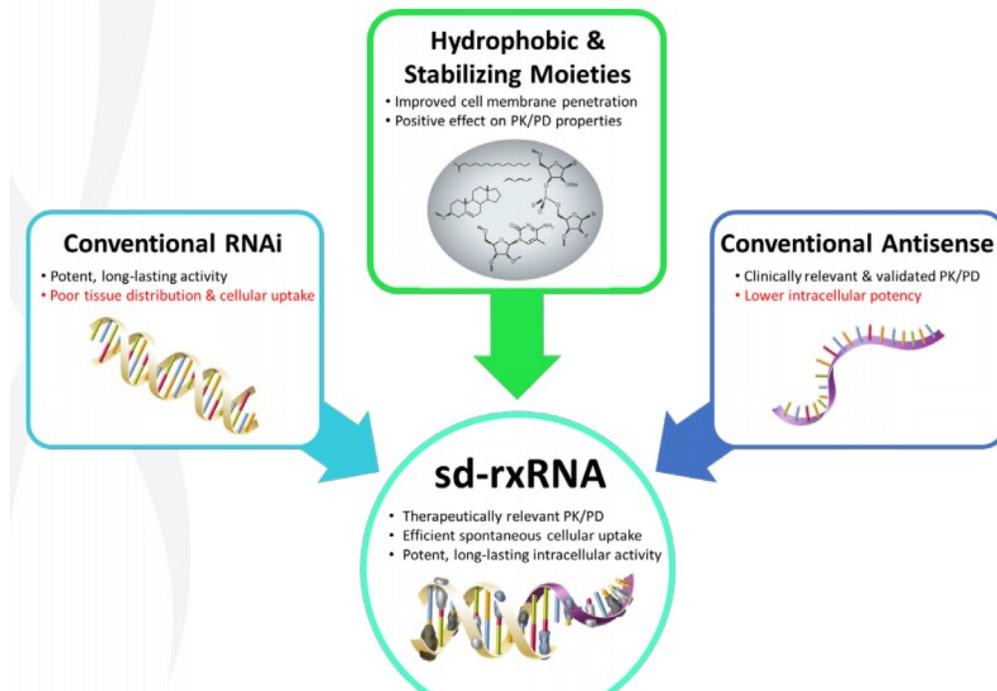


Work related to downregulating PD-1 receptors is being conducted with CCIT, Iovance and Medigene in the company's lead candidate RXI-762. sd-rxRNA has been effective with reducing PD-1 on tumor infiltrating lymphocytes (TILs) and with a variety of T-cells, including engineered and non-engineered.

RXi has made marked progress ACT and is working with the Karolinska Institutet to expand the utility of the platform to modify cell differentiation. The goal of the program is to produce anti-tumor adoptive cell therapy grafts that can exceed the capability of checkpoint blockade alone. Internal work has also progressed for ACT, especially with NK cells, that are attractive targets in immuno-oncology due to their role as first line defense against tumors. sd-rxRNA has demonstrated the ability to downregulate checkpoints on TIGIT and Cbl-b.

Collaboration with Gustave Roussy is focused on the tumor macroenvironment where data is being generated on the direct use of sd-rxRNA in intratumoral injection. Gene expression was reduced by 80 to 85% following the intratumoral injection. The platform is very specific and can differentiate among isoforms, providing a material benefit as compared to small molecules and antibodies.

## Exhibit IV – sd-rxRNA Therapeutic Platform



### Summary

RXi remains in negotiations with potential buyers regarding the dermatology and ophthalmology assets. We are hopeful that this will be able to add to cash levels in the near term and that this will be reflected in the valuation.<sup>2</sup> A transaction announcement may help improve the share price to a level where RXi Pharmaceuticals, or soon to be PHIO Pharmaceuticals, will be back in compliance with NASDAQ minimum share price requirements. Despite hurdles on the financing side, RXi has a multi-pronged approach to its immuno-oncology efforts, with three broad areas of research which is being conducted in collaboration with partners. Immuno-oncology is an attractive area for development as the FDA frequently provides preferential consideration for candidates pursuing a cancer indication and there is broad demand for therapies in this pathology. With the recent capital raise, RXi has indicated that they have sufficient cash to support activity until 2H:20, a runway that may be extended with funds generated from asset sales. We maintain our target price at \$2.00 per share.

<sup>2</sup> We discuss the Samcyprone and RXI-109 in a previous report found [here](https://s1.q4cdn.com/460208960/files/News/2018/Zacks_SCR_Research_08202018_RXII_Vandermosten.pdf).  
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## PROJECTED FINANCIALS

### RXi Pharmaceuticals Corp. - Income Statement

RXi Pharmaceuticals Corp	2017 A	Q1 A	Q2 A	Q3 A	Q4 E	2018 E	2019 E	2020 E
<b>Total Revenues</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.1</b>	<b>\$0.1</b>	<b>\$0.0</b>	<b>\$0.1</b>	<b>\$0.0</b>	<b>\$0.0</b>
<i>YOY Growth</i>								
Research & Development	\$5.4	\$1.4	\$1.2	\$0.8	\$1.1	\$4.5	\$5.2	\$8.0
Acquired In-process R&D	\$4.7	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
General & Administrative	\$4.0	\$0.9	\$0.8	\$0.7	\$0.9	\$3.3	\$4.2	\$4.5
<b>Income from operations</b>	<b>(\$14.1)</b>	<b>(\$2.2)</b>	<b>(\$1.9)</b>	<b>(\$1.5)</b>	<b>(\$2.0)</b>	<b>(\$7.6)</b>	<b>(\$9.4)</b>	<b>(\$12.5)</b>
<i>Operating Margin</i>	0%	0%	0%	0%	0%	0%	0%	0%
Interest Income	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Other Income	(\$0.0)	\$0.0	(\$0.0)	(\$0.0)	\$0.0	(\$0.0)	\$0.0	\$0.0
<b>Pre-Tax Income</b>	<b>(\$14.1)</b>	<b>(\$2.2)</b>	<b>(\$1.9)</b>	<b>(\$1.5)</b>	<b>(\$2.0)</b>	<b>(\$7.6)</b>	<b>(\$9.4)</b>	<b>(\$12.5)</b>
Provision for Income Tax	(\$1.6)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<i>Tax Rate</i>	11.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Net Income</b>	<b>(\$12.5)</b>	<b>(\$2.2)</b>	<b>(\$1.9)</b>	<b>(\$1.5)</b>	<b>(\$2.0)</b>	<b>(\$7.6)</b>	<b>(\$9.4)</b>	<b>(\$12.5)</b>
			\$0.0					
<b>Reported EPS</b>	<b>(\$5.52)</b>	<b>(\$0.90)</b>	<b>(\$0.46)</b>	<b>(\$0.34)</b>	<b>(\$0.11)</b>	<b>(\$1.81)</b>	<b>(\$0.36)</b>	<b>(\$0.48)</b>
<i>YOY Growth</i>								
Basic Shares Outstanding	2.26	2.49	4.10	4.37	18.00	7.24	25.90	26.00

Source: Company Filing // Zacks Investment Research, Inc. Estimates

## HISTORICAL STOCK PRICE

RXi Pharmaceuticals Corp. – Share Price Chart



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