



RXI PHARMACEUTICALS CORP. (NASDAQCM: RXII)

- **RXI identifies lead drug for combating scarring – IND will be filed in 2011.**
- **Partnering negotiations continue – first large deal is probably a few months away.**
- **We reiterate our BUY recommendation and maintain our target price of \$8.50 a share.**

RXi Pharmaceuticals Corp. (NasdaqCM: RXII) is a leader in the development of drugs that inhibit gene expression through an RNA interference (RNAi) pathway. The Company, which was co-founded in 2006 by Nobel Laureate Craig Mello, Ph.D., has created the smallest RNAi-based inhibitors. The most advanced molecular design for RXi's compounds includes a self-delivering capability that facilitates the drug's uptake into cells where it blocks gene expression at the level of messenger RNA (mRNA) translation.

Earlier this year, the Company set the strategic goals for its drug development program. Three categories were identified based on RXi's level of involvement. The Core Focus consists of programs for internal development, most likely through human proof of concept (Phase II clinical trials). This program is targeting dermatological and ophthalmological indications that will utilize technologies applicable to other conditions. The Strategic Interest area is one in which the Company works alone or with a partner at a preclinical level and relies on a partner for clinical development and marketing support. At this juncture, the two clinical areas considered of Strategic Interest are neurology and oncology. The latter includes liver cancers, which lend themselves to treatment with self-delivering RNAi constructs (the Company's proprietary sd-rxRNA). The third category is Opportunistic Pursuits that include a broad range of indications partnered from a preclinical stage and requiring few RXi resources.

Share Price (12/20/10)	\$2.75
52-Week Price Low / High	\$1.70 - \$8.99
Mkt. Capitalization (issued)	\$50.0 million
Shares Outstanding (issued)	18.4 million
12-month Target Price	\$8.50
Website	www.rxipharma.com



The latest news indicates that RXi has identified a lead compound in its Core Focus area, a sd-rxRNA molecule for combating scarring. Preclinical work should lead to an IND filing in the second half of 2011. Meanwhile, the search for an ophthalmic drug candidate is continuing, as are negotiations with prospective partners in its Strategic Interest area. The discussions, which have probably been slowed by difficulties with other companies' RNAi molecules, should conclude within a few months.

We believe RXi is making good progress in both its drug discovery and business development efforts. Since news of a partnership will likely stimulate interest in this stock, we are maintaining our BUY recommendation and our 12-month target price of \$8.50 per share.

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RXi HAS LEAD ANTI-SCARRING DRUG CANDIDATE

The Company met an important goal for this year by identifying a lead compound for development as an anti-scarring agent. The molecular target of the self-delivering RNAi molecule has not been divulged for competitive reasons at this juncture, but it is involved in controlling several components in the formation of scar tissue during the healing process. The drug candidate, which has already undergone some testing at a preclinical level with favorable results, will be examined more thoroughly in the months ahead to support an IND filing before the end of 2011. These studies will determine the dosing regimen, provide indications that the drug is acting as designed, verify that it is not interfering with wound healing, and determine whether the therapeutic agent is spreading beyond the region of local administration.

The Phase I clinical trial has not been designed yet, though RXi has indicated that it will involve the prevention of scarring associated with a surgical procedure. The relatively small study will be conducted in the United States and probably will follow each patient for only a few months. The drug will be formulated for injection into the area near the incision, most likely before and/or within a short time after the procedure. The goal is to gain regulatory approval of the drug for perioperative administration because it eliminates potential problems caused by differences in the nature/cause of the wound and timing of the therapy relative to the dermatological insult.

The dermatology market is noteworthy because it consists of about 42 million skin-scarring surgical procedures per annum of which 3 – 6 million are considered cosmetic and are therefore planned in advance. One example is abdominoplasty, which is also known as a “tummy tuck.” The market offers the potential for sales of an anti-scarring medicine to reach \$4 billion. But success in this field may well apply to such other fibrotic conditions as pulmonary fibrosis, liver fibrosis, acute spinal injury, ocular scarring, and restenosis. Taking these into account increases the sales potential to \$16 billion annually.

The size of the market and the lack of an effective therapy are attracting attention of the pharmaceutical industry. RXi's patents, which protect its sd-rxRNA construct, chemical modifications, and the specific drug molecule, should ensure its right to compete in this field.

PARTNERING TALKS CONTINUE

Another goal that RXi set for 2010 was to conclude a collaboration agreement with a large pharmaceutical corporation. Though significant progress has been made, the most advanced discussions have been put on hold temporarily by the prospective partner. As a result, a deal probably won't be signed for a few more months.

We believe one hurdle the Company has to contend with is the drug industry's familiarity with older RNAi technologies that lack important characteristics of the sd-rxRNA constructs. Several important hurdles must be cleared for an RNAi therapy to be effective, including targeting a biochemical pathway at a location suitable for generating the desired effect, but without serious toxicities. In addition, the molecules must reach the desired tissue location and then enter the appropriate cells. This is not a simple task in all cases, and it is probably one reason RXi chose dermatology and ophthalmology as its Core Focus areas. We note that its sd-rxRNA constructs are chemically modified RNA molecules that resist degradation and self-deliver into target cells, unlike older RNAi structures. Hence, it would not be surprising if corporations familiar with the older molecular constructs hesitate to enter into new agreements until they understand fully the benefits of RXi's technologies.

INVESTMENT CONSIDERATIONS

The investment community responded to the latest news by shaving about 25% off the share price in the first two trading days following the announcement. This is unfortunate, in our opinion. Rather than move quickly to sign up partners with drug constructs that lack key characteristics, RXi chose to craft a more complete molecular design before entering into such agreements.

Nevertheless, we believe the share price will continue to fluctuate on speculation over the size, timing, and nature of the Company's first major partnering deal. Once that has been inked, the stock should begin to reflect more fully the value of its technology, particularly once the target of the anti-scarring medicine is revealed and the ophthalmology drug candidate has been selected. The best estimate of when a partnership with a large corporation will be signed is in a few months. Accordingly, we believe the recent share price is an attractive entry point and we are maintaining our BUY rating and \$8.50-a-share price target.

INVESTMENT CONCERNS AND RISKS

For a complete description of risks and uncertainties related to RXi Pharmaceuticals' business, see the "Risk Factors" section in RXi's SEC filings, which can be accessed directly from the SEC Edgar filings at www.sec.gov. Potential risks include:

- **Stock risk and market risk:** There is a limited trading market for the Company's common stock. There can be no assurance that an active and liquid trading market will develop or, if developed, that it will be sustained, which could limit one's ability to buy or sell the Company's common stock at a desired price. Investors should also consider technical risks common to many small-cap or micro-cap stock investments, such as small float, risk of dilution, dependence upon key personnel, and the strength of competitors that may be larger and better capitalized.
- **Competitive risk:** The pharmaceutical and biotechnology markets are rapidly evolving, and research and development are expected to continue at an accelerated pace. Other companies are also actively engaged in the development of therapies to directly or indirectly treat those disorders being pursued by RXi. These companies may have substantially greater research and development capabilities, as well as significantly greater marketing, financial, and human resources than RXi.
- **Products still in development phases:** RXi's products are still in the discovery stage. Such products may appear to be promising, but may not reach commercialization for various reasons, including failure to achieve regulatory approvals, safety concerns, and/or the inability to be manufactured at a reasonable cost. And even if its products are commercialized, there can be no assurance that they will be accepted, which may prevent the Company from becoming profitable.
- **Funding requirements:** It is difficult to predict the Company's future capital requirements. The Company may need additional financing to continue funding the research and development of its products and to expand its business. There is no guarantee that it can secure the desired future capital or, if sufficient capital is secured, that current shareholders will not suffer significant dilution.
- **Regulatory risk:** There is no guarantee that RXi's products will be approved by the U.S. Food and Drug Administration (FDA) or international regulatory bodies for marketing in the U.S. or abroad.
- **Patent risk:** The field of RNAi pharmaceuticals is at an early stage of development, and although RXi Pharmaceuticals has licensed and/or filed for numerous patents to secure its right to commercialize its technology, not all of these patents have been challenged, and therefore some may not protect the Company's rights adequately in a competitive marketplace.

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2-YEAR PRICE CHART



Source: BigCharts.com

9/03/08 – Initiating Coverage: share price: \$6.89; rating: BUY; 12-month price target: \$23.00; **7/30/2009** – Update Report: share price: \$4.59, rating: BUY, 12-month price target: \$22.00; **5/13/2010** – Update Report: share price: \$4.42; rating: BUY, 12-month price target: \$22.00; **7/19/2010** – Update Report: share price: \$2.17, rating: BUY, 12-month price target: \$8.50; **12/21/2010** – Update Report; share price: \$2.75; rating: BUY, 12-month price target: \$8.50..

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