TRADEMARK ASSIGNMENT

Electronic Version v1.1
Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST

CONVEYING PARTY DATA

Name	Formerly	Execution Date	Entity Type
RNCS, Inc.		09/24/2011	CORPORATION:

RECEIVING PARTY DATA

Name:	Tang Capital Partners, LP
Street Address:	4401 Eastgate Mall
City:	San Diego
State/Country:	CALIFORNIA
Postal Code:	92121
Entity Type:	LIMITED PARTNERSHIP: DELAWARE

PROPERTY NUMBERS Total: 14

Property Type	Number	Word Mark
Serial Number:	85223006	RXI
Serial Number:	85223019	RXI
Serial Number:	85223046	RXRNA
Serial Number:	77871877	RXRNA NANO
Serial Number:	77871870	RXRNA ORI
Serial Number:	77871873	RXRNA SOLO
Serial Number:	77871869	SD-RXRNA
Registration Number:	3912163	NEXT GENERATION IN RNAI
Registration Number:	3901783	RXI
Registration Number:	3901784	RXI
Registration Number:	3932105	RXRNA
Serial Number:	85223031	NEXT GENERATION IN RNAI
Serial Number:	85223073	RXRNAORI
Serial Number:	85223055	SD-RXRNA

CH $365.00 85223006

CORRESPONDENCE DATA

Fax Number: (617)235-9493
Phone: 617 951-7000
Email: mdipalma@ropesgray.com

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.

Correspondent Name: Ropes & Gray LLP
Address Line 1: Prudential Tower 800 Boylston Street
Address Line 4: Boston, MASSACHUSETTS 02199-3600

ATTORNEY DOCKET NUMBER:	108954-0004
NAME OF SUBMITTER:	Mary Jane DiPalma
Signature:	/Mary Jane DiPalma/
Date:	09/26/2011

Total Attachments: 6
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TRADEMARK SECURITY AGREEMENT

This Trademark Security Agreement (this "Trademark Security Agreement") is made this 24th day of September, 2011, among the undersigned (the "Grantor"), and Tang Capital Partners, LP, in its capacity as representative for the Purchasers ("Agent").

RECITALS

WHEREAS, Pursuant to that certain Securities Purchase Agreement, dated as of September 24, 2011 (the "Securities Purchase Agreement"), by and among RXi Pharmaceuticals Corporation, RNCS, Inc. (the "Debtor"), and Agent and RTW Investments, LLC, as Purchasers (collectively, the "Purchasers"), Debtor has agreed to issue to the Purchasers, and the Purchasers have agreed to purchase from Debtor, the "Bridge Notes" (as defined in the Securities Purchase Agreement);

WHEREAS, the Purchasers are willing to make the financial accommodations to Debtor as provided for in the Securities Purchase Agreement and Bridge Notes, but only upon the condition, among others, that Grantor shall have executed and delivered to Agent, as representative of the Purchasers for the benefit of the Purchasers, that certain Security Agreement dated as of September 24, 2011 (including all annexes, exhibits or schedules thereto, as from time to time amended, restated, supplemented or otherwise modified, the "Security Agreement"); and

WHEREAS, pursuant to the Security Agreement, Grantor is required to execute and deliver to Agent this Trademark Security Agreement;

NOW, THEREFORE, in consideration of the premises and mutual covenants herein contained and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Grantor hereby agrees as follows:

1. DEFINED TERMS. All capitalized terms used but not otherwise defined herein have the meanings given to them in the Security Agreement.

2. GRANT OF SECURITY INTEREST IN TRADEMARK COLLATERAL. Grantor hereby grants to Agent a continuing first priority security interest in all of Grantor's right, title and interest in, to and under the following, whether presently existing or hereafter created or acquired (collectively, the "Trademark Collateral"):

(a) all of its Trademarks and Trademark Intellectual Property Licenses to which it is a party including those referred to on Schedule I hereto;

(b) all goodwill, trade secrets, proprietary or confidential information, technical information, procedures, formulae, quality control standards, designs, operating and training manuals, customer lists, and other General Intangibles with respect to the foregoing;

(c) all reissues, continuations or extensions of the foregoing;

(d) all goodwill of the business connected with the use of, and symbolized by, each Trademark and each Trademark Intellectual Property License; and

(e) all products and proceeds of the foregoing, including any claim by Grantor against third parties for past, present or future (i) infringement or dilution of any Trademark or any Trademark licensed under any Intellectual Property License or (ii) injury to the goodwill associated with any Trademark or any Trademark licensed under any Intellectual Property License.

3. SECURITY FOR OBLIGATIONS. This Trademark Security Agreement and the Security Interest created hereby secures the payment and performance of all the Secured Obligations, whether now existing or arising hereafter. Without limiting the generality of the foregoing, this Trademark Security Agreement secures the payment of all amounts which constitute part of the Secured Obligations and would be owed by Grantor, or any of them, to Agent, whether or not they are unenforceable or not allowable due to the existence of an Insolvency Proceeding involving Grantor.

4. SECURITY AGREEMENT. The security interests granted pursuant to this Trademark Security Agreement are granted in conjunction with the security interests granted to Agent pursuant to the Security Agreement. Grantor hereby acknowledges and affirms that the rights and remedies of Agent with respect to the security interest in the Trademark Collateral made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein.

5. AUTHORIZATION TO SUPPLEMENT. If Grantor shall obtain rights to any new trademarks, the provisions of this Trademark Security Agreement shall automatically apply thereto. Grantor shall give prompt notice in writing to Agent with respect to any such new trademarks or renewal or extension of any trademark registration. Without limiting Grantor's obligations under this Section 5, Grantor hereby authorizes Agent unilaterally to modify this Agreement by amending Schedule I to include any such new trademark rights of Grantor. Notwithstanding the foregoing, no failure to so modify this Trademark Security Agreement or amend Schedule I shall in any way affect, invalidate or detract from Agent's continuing security interest in all Collateral, whether or not listed on Schedule I.

6. COUNTERPARTS. This Trademark Security Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all such separate counterparts shall together constitute but one and the same instrument. In proving this Trademark Security Agreement or any other Note Document in any judicial proceedings, it shall not be necessary to produce or account for more than one such counterpart signed by the party against whom such enforcement is sought. Any signatures delivered by a party by facsimile transmission or by e-mail transmission shall be deemed an original signature hereto.

7. CONSTRUCTION. Unless the context of this Trademark Security Agreement or any other Note Document clearly requires otherwise, references to the plural include the singular, references to the singular include the plural, the terms "includes" and "including" are not limiting, and the term "or" has, except where otherwise indicated, the inclusive meaning represented by the phrase "and/or." The words "hereof," "herein," "hereby," "hereunder," and similar terms in this Trademark Security Agreement or any other Note Document refer to this Trademark Security Agreement or such other Note Document, as the case may be, as a whole and not to any particular provision of this Trademark Security Agreement or such other Note Document, as the case may be. Section, subsection, clause, schedule, and exhibit references herein are to this Trademark Security Agreement unless otherwise specified. Any reference in this Trademark Security Agreement or in any other Note Document to any agreement, instrument, or document shall include all alterations, amendments, changes, extensions, modifications, renewals, replacements, substitutions, joinders, and supplements, thereto and thereof, as applicable (subject to any restrictions on such alterations, amendments, changes, extensions, modifications, renewals, replacements, substitutions, joinders, and supplements set forth herein). Any reference herein or in any other Note Document to the satisfaction or repayment in full of the Secured Obligations shall mean the repayment in full in cash (or cash collateralization in accordance with the terms hereof) of all Secured Obligations other than unasserted contingent indemnification Secured Obligations. Any reference herein to any Person shall be construed to include such Person's successors and assigns. Any requirement of a writing contained herein or in any other Note Document shall be satisfied by the transmission of a Record and any Record so transmitted shall constitute a representation and warranty as to the accuracy and completeness of the information contained therein.

[signature page follows]

IN WITNESS WHEREOF, Grantor has caused this Trademark Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

Grantor: RNCS, Inc.

By: _____
Name: Mark J. Ahn
Title: _____

ACCEPTED AND ACKNOWLEDGED BY:

TANG CAPITAL PARTNERS, LP,
as Agent

By: _____
Name: _____
Title: _____

IN WITNESS WHEREOF, Grantor has caused this Trademark Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

Grantor: RNCS, Inc.

By: _____
Name: _____
Title: _____

ACCEPTED AND ACKNOWLEDGED BY:

TANG CAPITAL PARTNERS, LP,
as Agent

By: _____
Name: KEVIN TANG
Title: MANAGING DIRECTOR

SCHEDULE I
to
TRADEMARK SECURITY AGREEMENT

Trademark Registrations/Applications

Grantor	Country	Mark	Application/ Registration No.	App/Reg Date
RNCS, Inc.	USA	NEXT GENERATION IN RNAI	Reg. No. 4,012,215	Reg Date 8/16/11
RNCS, Inc.	USA	NEXT GENERATION IN RNAI	Reg. No. 3,912,163	Reg Date 1/25/11
RNCS, Inc.	USA	RXI	Ser. No. 85/223,006	App Date 1/21/11
RNCS, Inc.	USA	RXI	Reg. No. 3,901,783	Reg Date 1/04/11
RNCS, Inc.	USA	RXI	Ser. No. 85/223,019	App Date 1/21/11
RNCS, Inc.	USA	RXI	Reg. No. 3,901,784	Reg Date 1/04/11
RNCS, Inc.	USA	RXRNA	Ser. No. 85/223,046	App Date 1/21/11
RNCS, Inc.	USA	RXRNA	Reg. No. 3,932,105	Reg Date 3/15/11
RNCS, Inc.	USA	RXRNA NANO	Ser. No. 77/871,877	App Date 11/13/09
RNCS, Inc.	USA	RXRNAORI	Reg. No. 4,028,191	Reg Date 9/20/11
RNCS, Inc.	USA	RXRNA ORI	Ser. No. 77/871,870	App Date 11/13/09
RNCS, Inc.	USA	RXRNA SOLO	Ser. No. 77/871,873	App Date 11/13/09
RNCS, Inc.	USA	SD-RXRNA	Reg. No. 4,028,190	Reg Date 9/20/11
RNCS, Inc.	USA	SD-RXRNA	Ser. No. 77/871,869	App Date 11/13/09

- Next Generation in RNAi
  U.S. Serial No. 85223031
  U.S. Registration No. 4012215
  Issued: August 16, 2011

Trade Names

The name "RXi" (on and after the Spin-Off Closing only)

Common Law Trademarks

Not Applicable.

Trademarks Not Currently In Use

Not Applicable.

Trademark Licenses

Not Applicable.