

EMERGING COMPANY PROFILE

SyntheKine launches with \$82M to create new cytokine signals

BY KAREN TKACH TUZMAN, ASSOCIATE EDITOR

SyntheKine is translating the structural biology work of Stanford synthetic cytokine pioneer K. Chris Garcia into a broad platform that could generate therapeutic cytokine signals never seen in nature.

The company, which launched Thursday with an \$82 million series A round co-led by Canaan Partners, Samsara BioCapital and The Column Group, aims to submit INDs for its first two oncology programs in 2021. It is also developing therapies for autoimmunity.

SyntheKine Therapeutics Inc. is “modality agnostic,” and its pipeline includes mutated cytokines, engineered cell therapies and bispecific compounds, said CEO Debanjan Ray.

Ray was previously CFO and head of BD at CytomX Therapeutics Inc. (NASDAQ:CTMX), where he led deals that brought in more than \$400 million in upfront payments and up to \$4 billion in milestones. He said that in addition to building SyntheKine’s internal pipeline, the company plans to pursue partnerships.

Stanford University School of Medicine professor Garcia told BioCentury the company is taking a “medicinal chemistry” approach that uses his lab’s extensive work on the structural biology of cytokine-receptor interactions to “narrow the functional actions of these cytokines to endow them with drug-like properties,” similar to what has been done for GPCR-targeting drugs.

“We’ve applied concepts of partial agonism and biased agonism to cytokines, and found that different cell subsets are wired with different response thresholds that allow us to focus the cytokine actions on certain subsets, and minimize actions on others,” said Garcia.

His work on IL-2 variants that preferentially activate signaling through the IL-2 receptor’s β chain over its α chain to boost anti-tumor immune responses was licensed by Medicenna Therapeutics Corp. (TSX:MDNA; OTCQX:MDNAF), forming the basis for the company’s preclinical “superkines,” and helped

COMPANY PROFILE

SyntheKine Inc.

Menlo Park, Calif.

Technology: Structural biology-based cytokine receptor agonists with novel signaling profiles

Origin of technology: Stanford University

Disease focus: Cancer, autoimmune

Clinical status: Preclinical

Founded: 2019 by K. Christopher Garcia

University collaborators: Stanford University

Corporate partners: None

Number of employees: About 30

Funds raised: \$82 million

Investors: Canaan Partners, Samsara BioCapital and The Column Group, other undisclosed investors

CEO: Debanjan Ray

Patents: Undisclosed

lay the groundwork for variations on the approach from Nektar Therapeutics (NASDAQ:NKTR), Synthorx Inc., Neoleukin Therapeutics Inc. (NASDAQ:NLTX), Bright Peak Therapeutics Inc. and others (see “Next-Wave Th1 Cytokine Cancer Therapies”). SyntheKine’s lead program is STK-012, an IL-2 receptor partial agonist that uses an undisclosed mechanism to selectively activate T cells that recognize tumor antigens. Ray said the compound is distinguished from other modified IL-2 candidates by its single agent activity in preclinical tumor models.

Its next program is SYNCAR-001, a CAR T cell therapy engineered to express a modified IL-2 receptor that recognizes the “orthogonal IL-2” STK-009. Because STK-009 is engineered to activate signaling through the modified receptor but not endogenous IL-2 receptors, it controls CAR T cell expansion without inducing off-target toxicity.

BIOCENTURY

Ray said the company is using a combination of in-house and CRO capabilities to develop the cell therapy system. He added that the engineered receptor-cytokine pair can be incorporated into any adoptive cell therapy, and that the company is in discussions with potential partners.

Beyond these two initial programs, the company is developing therapies that generate unnatural cytokine signals by bringing together cytokine receptor subunits that don't normally pair up, a concept Garcia's lab introduced in a 2017 *eLife* study (see "Odd Couples").

Garcia said the process involves determining what cytokine receptor chains are expressed on a target cell of interest, then generating bispecifics or other compounds that pull those chains together in every

possible combination, and seeing which combinations result in a desired functional profile.

"That really opens up an enormously huge combinatorial matrix of possible new signaling activities," he said.

Ray said the company's team includes cytokine therapy experts from Armo Biosciences Inc. and the DNAX Research Institute. SyntheKine has also brought on Nils Lonberg as an independent member of its board; Lonberg was formerly scientific director at GenPhar Inc. and Medarex Inc., and SVP of oncology discovery biology at Bristol Myers Squibb Co. (NYSE:BMY).

TARGETS

IL-2 - interleukin 2

BIOCENTURY INC.

BioCentury's mission is to provide value-added business intelligence & analysis for life science companies, investors, academia and government on the strategic issues essential to the formation, development and sustainability of life science ventures.

NEWSROOM

pressreleases@biocentury.com

SAN CARLOS, CA

+1 650-595-5333; Fax: +1 650-595-5589

CHICAGO

+1 312-755-0798; Fax: +1 650-595-5589

WASHINGTON, DC

+1 202-462-9582; Fax: +1 202-667-2922

UNITED KINGDOM

+44 (0)1865-512184; Fax: +1 650-595-5589

BioCentury®; Because Real Intelligence is Hard to Find™; BCIQ™; The BioCentury 100™; and The Clear Route to ROI™ are trademarks of BIOCENTURY INC. All contents Copyright © 2020, BIOCENTURY INC. ALL RIGHTS RESERVED. No part of BioCentury's Publications or Website may be copied, reproduced, retransmitted, disseminated, sold, distributed, published, broadcast, circulated, commercially exploited in any form or used to create derivative works without the written consent of BioCentury. Information provided by BioCentury's Publications and Website is gathered from sources that BioCentury believes are reliable; however, BioCentury does not guarantee the accuracy, completeness, or timeliness of the information, nor does BioCentury make any warranties of any kind regarding the information. The contents of BioCentury's Publications and Website are not intended as investment, business, tax or legal advice, and BioCentury is not responsible for any investment, business, tax or legal opinions cited therein or for any decision made or action taken in reliance upon such information.

All use of BioCentury and its contents by current subscribers is governed by the BioCentury User Agreement and by all others is governed by the BioCentury Terms of Use, unless a written agreement to the contrary has been executed by BioCentury Inc.

USE OF IMAGES: Certain Images used in BioCentury Inc.'s Publications, Video Content, Websites, Services, Notices and/or Marketing Materials are licensed from Getty Images (US), Inc. Any such image of a person or object so displayed is being used for illustrative purposes only and any such person or object depicted, if any, is merely a model. For more information see "Use of Images" found under the "Legal" section on the footer of the homepage at www.biocentury.com.

PRIVACY & ADVERTISING: In accordance with its Privacy Policy, BioCentury does NOT sell its customer information or usage data to third parties. BioCentury does NOT sell advertising in the BioCentury, BioCentury Innovations or BioCentury Week in Review publications. BioCentury is pleased to acknowledge its conference partners and sponsors through promotional announcements in its publications. BioCentury MAY accept paid promotional messages from sponsors, which are displayed only on BioCentury's websites and in BioCentury Extra.