



Jazz Pharmaceuticals Acquires Pre-clinical Pan-RAF Inhibitor Program from Redx Pharma

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Pan-RAF Program adds an Early Stage, Innovative, Precision Oncology Asset to Jazz Pharmaceuticals' Growing R&D Portfolio

Redx to Receive \$3.5 Million Upfront, up to \$203 Million in Milestone Payments and Royalties on Future Net Sales

DUBLIN, July 10, 2019 /PRNewswire/ -- Jazz Pharmaceuticals plc (Nasdaq: JAZZ) today announced that the company has signed a definitive agreement under which Jazz has acquired Redx Pharma's (Redx) pan-RAF inhibitor program for the potential treatment of RAF and RAS mutant tumors. Redx will perform certain pre-clinical activities for the program under a separate collaboration agreement with Jazz. Jazz will be responsible for further development, regulatory activities and commercialization.

Under the terms of the agreement, Jazz will pay Redx an upfront payment of \$3.5 million. Redx is eligible to receive up to \$203 million in development, regulatory and commercial milestone payments from Jazz, and incremental tiered royalties in mid-single digit percentage, based on any future net sales.

"We are excited to acquire Redx's pan-RAF inhibitor program. It has the potential to work in RAF driven tumors where current selective B-RAF inhibitors and their respective combinations are ineffective due to acquired resistance mechanisms. In addition, there is the potential to address RAS driven tumors," said Robert Iannone, M.D., M.S.C.E., executive vice president, research and development of Jazz Pharmaceuticals. "We look forward to advancing the pan-RAF inhibitor program that is part of a novel class of next generation precision oncology drugs and is highly complementary to our growing R&D portfolio of early-stage, innovative, hematology/oncology therapies."

About Pan-RAF Inhibitors^{1,2,3}

Mutations leading to uncontrolled signalling via the RAS-RAF-MAPK pathway are seen in more than one third of all cancers. The pan-RAF inhibitor program aims to overcome resistance mechanisms associated with clinically approved B-RAF selective drugs.

The RAF kinases (A-RAF, B-RAF and C-RAF) are an integral part of this pathway, with B-RAF mutations commonly seen in the clinic. Although most B-RAF V600E mutant skin cancers are sensitive to approved B-RAF selective drugs, B-RAF V600E mutant colorectal cancers are surprisingly insensitive to these agents as monotherapy due to the functions of other RAF family members and require combination therapy.

B-RAF selective therapies fail to show clinical benefit against atypical B-RAF (non-V600E), other RAF and RAS driven tumors. Pre-clinical study results of Redx's pan-RAF program have demonstrated in vivo efficacy in a B-RAFV600E mutant colorectal cancer xenograft model as a single agent, where approved B-RAF selective drugs are ineffective as monotherapy. It has also shown promising activity in RAS-mutated cancer cells.

About Jazz Pharmaceuticals plc

Jazz Pharmaceuticals plc (Nasdaq: JAZZ), a global biopharmaceutical company, is dedicated to developing life-changing medicines for people with limited or no options. As a leader in sleep medicine and with a growing hematology/oncology portfolio, Jazz has a diverse portfolio of products and product candidates in development, and is focused on transforming biopharmaceutical discoveries into novel medicines. Jazz Pharmaceuticals markets Sunosi™ (solriamfetol), Xyrem® (sodium oxybate) oral solution, Defitelio® (defibrotide sodium), Erwinaze® (asparaginase *Erwinia chrysanthemi*) and Vyxeos® (daunorubicin and cytarabine) liposome for injection in the U.S. and markets Defitelio® (defibrotide), Erwinaze® and Vyxeos® 44 mg/100 mg powder for concentrate for solution for infusion in countries outside the U.S. For country-specific product information, please visit <https://www.jazzpharmaceuticals.com/medicines>. For more information, please visit www.jazzpharmaceuticals.com and follow us on Twitter at @JazzPharma.

"Safe Harbor" Statement under the Private Securities Litigation Reform Act of 1995

This press release contains forward-looking statements, including, but not limited to, statements related to the potential benefits from the future development and advancement of the pan-RAF inhibitor program for the potential treatment of RAF and RAS mutant tumors; potential future payments by Jazz Pharmaceuticals to Redx; the potential of the pan-RAF inhibitor program to work in RAF driven tumors and to address RAS driven tumors; and other statements that are not historical facts. These forward-looking statements are based on the company's current plans, objectives, estimates, expectations and intentions and inherently involve significant risks and uncertainties. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation, risks and uncertainties associated with: Jazz Pharmaceuticals' ability to achieve the expected benefits from the acquisition of Redx's pan-RAF inhibitor program; pharmaceutical product development and clinical success thereof; the regulatory approval process; and effectively commercializing any product candidates; and other risks and uncertainties affecting the company, including those described from time to time under the caption "Risk Factors" and elsewhere in Jazz Pharmaceuticals plc's Securities and Exchange Commission filings and reports (Commission File No. 001-33500), including the company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2019 and future filings and reports by the company. Other risks and uncertainties of which the company is not currently aware may also affect the company's forward-looking statements and may cause actual results and the timing of events to differ materially from those anticipated. The forward-looking statements herein are made only as of the date hereof or as of the dates indicated in the forward-looking statements, even if they are subsequently made available by the company on its website or otherwise. The company undertakes no obligation to update or supplement any forward-looking statements to reflect actual results, new information, future events, changes in its expectations or other circumstances that exist after the date as of which the forward-looking statements were made.

References:

1. Knight T, Irving JA. Ras/Raf/MEK/ERK pathway activation in childhood acute lymphoblastic leukemia and its therapeutic targeting. *Front Oncol.* 2014; 4:160.
2. Santaripa L, Lippman SL, El-Naggar AK. Targeting the mitogen-activated protein kinase RAS-RAF signaling pathway in

cancer therapy. *Expert Opin Ther Targets*. 2012; 16:103-119.

3. Hertzman Johansson C. & Egyhazi Brage S. BRAF inhibitors in cancer therapy, *Pharmacology & Therapeutics*. 2014; 142:176-182.



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