

August 30, 2018



## **Poxel Expands Metabolic Pipeline Through Strategic Acquisition Agreement with DeuteRx for DRX-065, a Novel Clinical Stage Drug Candidate for NASH, and Other Programs**

- **Poxel acquires exclusive, worldwide ownership to DRX-065 (deuterium-stabilized R-pioglitazone), a clinical stage program being pursued for the treatment of NASH**
- **Additional programs, including deuterated drug candidates for metabolic, specialty and rare diseases, also acquired from DeuteRx**
- **Poxel plans to advance PXL770 and DRX-065, two differentiated product candidates with unique and complementary mechanisms of action, into proof-of-concept studies for the treatment of NASH in 2019**

LYON, France, & ANDOVER, Mass.--(BUSINESS WIRE)-- [POXEL SA](#) (Euronext – POXEL - FR0012432516), a biopharmaceutical company focused on the development of innovative treatments for metabolic disorders, including type 2 diabetes and non-alcoholic steatohepatitis (NASH), and [DeuteRx LLC](#), a privately-held clinical-stage biopharmaceutical company dedicated to improving racemic drugs, today announced that Poxel has acquired DRX-065, a novel clinical stage drug candidate that the company plans to develop for the treatment of NASH. Poxel has also acquired a portfolio of additional deuterated drug candidates from DeuteRx for metabolic, specialty and rare diseases.

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Poxel will pay DeuteRx an upfront payment composed of EUR 6.8 million (USD 8 million) in cash plus 1.29 million in new ordinary shares of Poxel common stock, representing 4.99 percent of Poxel's issued capital. DeuteRx is also eligible to receive development, regulatory and sales-based milestone payments, and royalties on net sales.

"Today's announcement is strategically important to Poxel and represents the third major corporate transaction that we have accomplished in the past year," said Thomas Kuhn, CEO of Poxel. "With the partnerships for Imeglimin with Sumitomo Dainippon Pharma and with Roivant Sciences, and the successful completion of the Phase 1 program for PXL770, a direct AMPK activator that we are advancing for the treatment of NASH, together with this

important agreement with DeuteRx, we have strengthened the company both financially and strategically. We are very excited about our robust, well-diversified, mid- to late-stage metabolic pipeline targeting large market opportunities, as well as earlier-stage metabolic programs advancing in development.”

### **Strategic expansion of Poxel’s metabolic pipeline through agreement with DeuteRx**

Through this strategic collaboration and acquisition agreement, Poxel expands its metabolic pipeline and gains exclusive, worldwide ownership to DRX-065 (deuterium-stabilized R-pioglitazone), a mitochondrial pyruvate carrier (MPC) inhibitor that is currently in Phase 1 development. DRX-065 is the R-stereoisomer (single isomer) of pioglitazone. Pioglitazone, a drug approved for the treatment of type 2 diabetes, has demonstrated efficacy in NASH and is currently the only drug recommended in practice guidelines for biopsy-proven NASH patients<sup>1</sup>. However, pioglitazone’s use has been limited in NASH due to its side effect profile, which includes weight gain, bone fractures and fluid retention. DRX-065, a novel patent-protected drug candidate, offers a new approach for the treatment of NASH. Based upon preclinical and Phase 1 results to date, DRX-065 is anticipated to show a better therapeutic profile than pioglitazone, including enhanced efficacy and a reduction of side effects, such as those associated with peroxisome proliferator-activated receptor gamma (PPAR- $\gamma$ ) activation.

Poxel also gains exclusive, worldwide ownership to additional programs that it can develop for a range of indications including metabolic, specialty and rare diseases. As part of this agreement, certain key employees of DeuteRx will collaborate closely with Poxel on the continued advancement of DRX-065 and the additional programs from DeuteRx.

“NASH is an area of high unmet medical need with growing prevalence. Non-alcoholic fatty liver disease (NAFLD) has become an epidemic due in part to the extraordinary growth in prevalence of both obesity and type 2 diabetes,” said Scott Friedman, MD, Dean for Therapeutic Discovery, Professor of Medicine and Pharmacologic Sciences and Chief, Division of Liver Diseases at Mount Sinai School of Medicine. “The underlying pathophysiological mechanisms that drive the development and progression of NAFLD and NASH are highly complex, supporting the need for the development of novel therapies acting on different targets. By addressing a variety of relevant pathways, such as direct AMPK activation and MPC inhibition, combination therapies for the treatment of NASH could yield greater success in the future.”

“PXL770, a direct AMPK activator, and DRX-065, a MPC inhibitor, are very promising drug candidates for NASH that have the potential to treat the underlying root causes of liver disease. We believe that these mechanisms as monotherapies or in combination use together or with other agents have the potential to provide broad treatment of this disease.” said Pascale Fouqueray, MD, PhD, EVP, Early Development and Translational Medicine at Poxel.

“DeuteRx is excited to collaborate with the team at Poxel to advance DRX-065 and additional programs for the benefit of patients with metabolic diseases, including NASH and other specialty or rare diseases,” said Sheila DeWitt, PhD, President and CEO of DeuteRx. “Our agreement with Poxel is strategically aligned with DeuteRx’s goals to partner with innovative companies who have global drug development expertise and a proven track record of successful multinational collaborations that create significant value.”

## **Financial terms and conditions of the agreement**

Under the agreement with DeuteRx, Poxel will acquire DRX-065 and a portfolio of additional programs, including deuterated drug candidates for metabolic, specialty and rare diseases for an upfront payment of EUR 6.8 million (USD 8 million) in cash plus 1.29 million in new ordinary shares of Poxel common stock priced at EUR 6.91 per share (USD 8.09)<sup>2</sup>, representing 4.99 percent of Poxel's issued capital.

This issuance will be made through a capital increase without preferred subscription rights for the sole benefit of DeuteRx, in accordance with article L. 225-138 of the Code de commerce and pursuant to the 15th resolution of the Shareholder's General Meeting held on June 21, 2018.

DeuteRx also has the potential to receive development and regulatory milestones in cash and/or share-based payments beginning with successful Phase 2 data. In addition, DeuteRx has the potential to receive sales-based payments, as well as low single-digit royalties on net sales. These future payments are subject to the successful clinical development and/or commercialization of these programs.

As of June 30, 2018, Poxel had cash and cash equivalents of EUR 94.4 million (USD 110.1 million). Based on its current cash expectations including this transaction, the company's cash runway extends into 2021 and includes the completion of clinical proof-of-concept studies for both PXL770 and DRX-065.

## **Potential for expedited development and regulatory pathway**

Poxel plans to pursue an expedited development and regulatory pathway for the development of DRX-065 that relies on data from the parent drug, pioglitazone. Precedent for this derisked approach has been established with the development of single stereoisomer drugs as well as deuterated drugs. Both approaches have resulted in approved products with improved therapeutic properties compared to the parent drug.

MTS Health Partners, L.P. served as an exclusive financial advisor to Poxel on this transaction.

## **Conference Call Information**

Poxel will host an investor conference call today to discuss this partnership at 1 pm Eastern Time (7 pm Central European Time). To participate in the call, please use the dial-in numbers below.

France Toll: +33 1 72 72 74 03  
United Kingdom: +44 20 7194 3759  
United States Toll : +1 (646)-722-4916  
PIN: 20511820#

Replay Number:  
France (EN) +33 1 70 71 01 60  
UK +44 20 3364 5147  
US +1 (646) 722-4969  
Access code: 418784817#

## **About NASH**

Non-alcoholic steatohepatitis (NASH) is a metabolic disease with no clear disease origin that is quickly becoming a worldwide epidemic. It is characterized by the accumulation of fat in the liver causing inflammation and fibrosis. The disease can be silent for a long period of time, but may progress towards severe damage and liver fibrosis, which ultimately can result in liver failure and/or development of liver cancer.

Typical risk factors for NASH include obesity, elevated levels of blood lipids (such as cholesterol and triglycerides) and diabetes. Currently no curative or specific therapies are available.

### **About PXL770**

PXL770 is a first-in-class direct adenosine monophosphate-activated protein kinase (AMPK) activator being developed by Poxel. AMPK is a central regulator of multiple metabolic pathways leading to the control of lipid metabolism, glucose homeostasis and inflammation. Based on its central metabolic role, targeting AMPK offers the opportunity to pursue a wide range of indications to treat chronic metabolic diseases, including diseases that affect the liver, such as (NASH).<sup>3</sup>

### **About DRX-065**

DRX-065 is deuterium-stabilized R-pioglitazone developed by DeuteRx LLC. Pioglitazone is the most extensively studied drug for NASH and has demonstrated “resolution of NASH without worsening of fibrosis” in a Phase 4 trial.<sup>4</sup> Pioglitazone is the only drug recommended for biopsy-proven NASH patients by the Practice Guidelines published by the American Association for the Study of Liver Diseases (AASLD) and the European Association for the Study of the Liver (EASL).<sup>1</sup> Pioglitazone’s use for NASH, however, has been limited due to the PPAR $\gamma$ -related side effects, which include weight gain, bone fractures and fluid retention.

Pioglitazone is a 1:1 mixture of two mirror-image compounds (stereoisomers) that interconvert *in vivo*. Using deuterium, DeuteRx stabilized each stereoisomer and characterized their dramatically different pharmacological properties. In *in vitro* studies, DRX-065 has been shown to target MPC as an inhibitor. In preclinical models, DRX-065 exhibits the anti-inflammatory activity and NASH efficacy associated with pioglitazone with little or no weight gain or fluid retention, side effects which are associated with the S-stereoisomer. Based upon preclinical and Phase 1 results to date, DRX-065 is expected to exhibit a better therapeutic profile than pioglitazone for NASH.

### **About Poxel SA**

Poxel uses its development expertise in metabolism to advance a pipeline of drug candidates focused on the treatment of metabolic disorders, including type 2 diabetes and non-alcoholic steatohepatitis (NASH). We have successfully completed the Phase 2 clinical program for our first-in-class lead product, Imeglimin, which targets mitochondrial dysfunction, in the U.S., Europe and Japan. Together, with our partner Sumitomo Dainippon Pharma, we are conducting the Phase 3 **T**rials of **I**meglimin for **E**fficacy and **S**afety (TIMES) program for the treatment of type 2 diabetes in Japan. Our partner Roivant Sciences is responsible for Imeglimin’s development and commercialization in countries outside of Poxel’s partnership with Sumitomo Dainippon Pharma, including the U.S. and Europe. Our second program, PXL770, a first in class direct adenosine monophosphate-activated protein kinase (AMPK) activator, is advancing into a Phase 2a proof-of-concept program for the treatment of NASH. PXL770 could also have the potential to treat additional metabolic

diseases. We intend to generate further growth through strategic partnerships and pipeline development. (Euronext: POXEL, [www.poxelpharma.com](http://www.poxelpharma.com))

### **About DeuteRx, LLC**

DeuteRx has pioneered 'deuterium-enabled chiral switching' (DECS), a revolutionary approach to improve racemic (a 1:1 mixture of two mirror-image compounds or stereoisomers) small molecule marketed drugs and drug candidates intended for patients across multiple therapeutic indications. The development of the single, preferred stereoisomer from the parent racemic drug, also known as a 'chiral switch', often leads to drugs with superior therapeutic properties. However, numerous drugs are still developed and marketed as racemic mixtures because their stereoisomers chemically interconvert *in vivo*. To date, DeuteRx has demonstrated the use of DECS to stabilize and characterize the stereoisomers of many racemic active ingredients.

### **Forward-Looking Statement**

All statements other than statements of historical fact included in this press release about future events are subject to (i) change without notice and (ii) factors beyond the Company's control. These statements may include, without limitation, any statements preceded by, followed by or including words such as "target," "believe," "expect," "aim," "intend," "may," "anticipate," "estimate," "plan," "project," "will," "can have," "likely," "should," "would," "could" and other words and terms of similar meaning or the negative thereof. Forward-looking statements are subject to inherent risks and uncertainties beyond the Company's control that could cause the Company's actual results or performance to be materially different from the expected results or performance expressed or implied by such forward-looking statements. In accordance with applicable laws and regulations, the issuance of new ordinary shares of the Company described in this press release does not require the publication of a prospectus.

1. J Hepatol. 2016, 64(6),1388-402; Hepatology 2018, 67, 328-357
2. Pursuant to the agreement, there is a nine-month lock-up of the 1.29 million new ordinary shares to be issued in favour of DeuteRx and certain other restrictions. The issuance price of the new shares due to DeuteRx as part of the upfront as well as the subsequent contingent share-based payments will be the 20 trading day-volume weighted average price preceding the day of their issuance. A shareholder holding one percent of Poxel's issued capital prior to the transaction will own 0.9501 percent of the Poxel's issued capital afterwards.
3. Smith B. K et al., (2016) Am J Physiol Endocrinol Metab 311, E730 – E740
4. [Cusi, et al., Ann Intern Med. 2016, 165\(5\), 305-315](#)

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