4SC
EpiScience for Life

Interim Communication as of 31 March 2017

ABOUT THIS REPORT

This Interim Communication as of 31 March 2017 should be read in conjunction with 4SC's Annual Report for the 2016 financial year.

The report at hand contains certain forward-looking statements that are subject to risks and uncertainties that are described, with no claim to be exhaustive, in the section entitled "Report on opportunities and risks" in the Annual Report 2016 and also in the "Opportunities and risks" section of this Interim Communication. In many cases, these risks and uncertainties are outside of 4SC's control and may cause actual results to differ materially from those contemplated in these forward-looking statements. 4SC expressly does not assume any obligation for updating or revising forward-looking statements to reflect any changes in expectations or in events, conditions or circumstances on which such statements are based.

ABOUT 4SC

4SC (www.4SC.com) is a clinical-stage biopharmaceutical company developing small-molecule drugs that can target key indications in cancer with high unmet medical needs through epigenetic mechanisms. Such drugs are intended to provide patients with innovative treatment options that are more tolerable and efficacious than existing therapies and provide a better quality of life. The Company's core assets include resminostat, 4SC-202 and 4SC-208.

4SC's pipeline is protected by a comprehensive portfolio of patents and comprises promising products that are in various stages of preclinical and clinical development.

4SC's aim is to generate future growth and enhance its enterprise value by entering into partnerships with pharmaceutical and biotech companies and/or the eventual marketing and sales of approved drugs in select territories by 4SC itself. Founded in 1997, 4SC had 48 employees as of 31 March 2017. 4SC has been listed on the Prime Standard of the Frankfurt Stock Exchange since December 2005.

KEY EVENTS IN Q1 2017

The events mentioned here were each made public via a press release. Details about these events can be found in the relevant releases (available at www.4SC.com) and/or in the business review information in this Interim Communication.

- **20 January**
  Investigators of Yakult Honsha's Phase II study of resminostat in combination with sorafenib as first-line treatment in advanced liver cancer (hepatocellular carcinoma, HCC) present detailed results at the Gastrointestinal Cancers Symposium in San Francisco, USA, showing a substantially longer overall survival in patients with higher than median platelet count at study entry for the cohort treated with resminostat in combination with sorafenib, versus treatment with sorafenib alone

- **6-7 and 9-10 March**
  4SC presents supportive preclinical data on resminostat's potential as maintenance therapy for cutaneous T-cell lymphoma (CTCL) at the Advances in Drug Discovery Conference in Cambridge, United Kingdom (6-7 March) and at the Clinical Epigenetics International Meeting in Dusseldorf, Germany (9-10 March)

- **21 March**
  4SC announces two poster presentations at the American Association for Cancer Research Annual Meeting 2017 in Washington, D.C., USA, both supporting the continued development of 4SC-202; the poster presentations took place on

3 April (on 4SC-202 plus checkpoint inhibition, boosting the immune system to fight cancer) and on 4 April (on 4SC-202 as a potentially interesting player in acute myeloid leukemia), respectively

DEVELOPMENT OF CASH FUNDS IN Q1 2017 AND FINANCIAL FORECAST

As of 31 March 2017, 4SC holds cash balance/ funds of €7,453 thousand as compared to €11,333 thousand as of 31 December 2016. The monthly use of cash from operations amounted to €1,293 thousand on average in Q1 2017 as compared to €827 thousand per month for the full year 2016. The increase in Q1 2017 was driven by postponed expenses from 2016 for the RESMAIN clinical study of resminostat in CTCL. Monthly use of cash from operations was within the range forecasted for 2017 as a whole - of between €600 thousand and €1,400 thousand on average per month – and the Management Board of 4SC confirms that funds should be sufficient for a further twelve months of operations.

BUSINESS REVIEW Q1 2017 AND OUTLOOK

Drug development

In Q1 2017, 4SC continued to focus its development strategy on drug candidates in the field of innovative anti-cancer therapies. The 4SC product pipeline currently comprises a total of three key small molecule compounds: the clinical candidates resminostat and 4SC-202 and the preclinical compound 4SC-208. All three target key indications in oncology through epigenetic mechanisms.

In addition, 4SC is focused on securing licensing deals for non-key assets such as 4SC-205 and the Company's portfolio of Kv1.3 inhibitors, for example, to ensure further clinical development of these drug candidates and to achieve a short-term inflow of funds while optimally exploiting the development programs' value creation potential over the long term.

Resminostat

Resminostat is an orally administered histone deacetylase (HDAC) inhibitor with an epigenetic mechanism of action that potentially offers a novel approach to treating a wide variety of cancers, both as monotherapy and in combination with other anti-cancer drugs.

Resminostat has been shown to be well tolerated in patients with advanced cancers, and initial positive efficacy results for resminostat in monotherapy were observed in patients with Hodgkin's lymphoma and in combination with sorafenib in selected patients with HCC.

In 2016, the Company started the pivotal RESMAIN study – a randomized, double-blind, placebo-controlled clinical Phase II study with resminostat in CTCL. This study will be conducted in Europe to examine the potential of resminostat as maintenance therapy intended to delay or prevent the progression of disease in patients with advanced CTCL who have benefitted from prior systemic therapy. 4SC finalized the study design in early 2016, following scientific advice provided by the European Medicines Agency (EMA), and enrolled the first patient in December 2016. The goal is to conduct the study with a total of 150 patients from around 50 study centers located in eleven European countries. 4SC expects top-line results to be available in H1 2019. If these results are positive, 4SC will submit an application for approval of the drug.

In January 2017, the investigators presented data from the Phase II study that had been conducted by 4SC's cooperation partner Yakult Honsha with resminostat in combination with sorafenib in first-line therapy in HCC, compared to the use of

sorafenib as a monotherapy. Subgroup analysis of the study revealed that addition of resminostat to the standard of care sorafenib resulted in a prolonged time until disease progression and a substantial benefit in median overall survival in patients with a normal to high platelet count at study entry. At median, patients in this subgroup treated with resminostat and sorafenib survived for 13.7 months compared to 5.1 months in patients treated with sorafenib alone.

4SC-202

4SC-202 is an orally administered small molecule for the treatment of cancer. The compound is an epigenetic modulator with a unique mechanism of action that inhibits both the lysine-specific demethylase (LSD1) protein and certain histone deacetylase proteins (HDAC1, 2, 3), which play significant roles in the regulation of signaling pathways in cancer cells.

4SC-202 has been investigated in a Phase I study with 24 mostly heavily pretreated patients with several types of advanced hematologic cancers, and has proven to be well-tolerated. Positive signs of anti-tumor efficacy were observed with one complete remission for 28 months and one partial responder for 8 months.

Data from preclinical investigations demonstrated that 4SC-202 strengthens the anti-tumor immune response, alters the tumor microenvironment and increases infiltration of immune cells into the tumor. Further preclinical investigations showed that the combination of 4SC-202 with checkpoint inhibitors resulted in better anti-tumor activity than treatment with checkpoint inhibitors alone, suggesting a very promising clinical development path for 4SC-202 in both refractory and non-responding patients to treatment with checkpoint inhibitors.

4SC expects two Phase II studies to start in 2017, investigating 4SC-202 in combination therapy with immuno-oncology drugs.

The SENSITIZE Phase II study is set to begin in H2 2017, investigating 4SC-202 in combination with a PD-1 antibody for treating PD-1 refractory melanoma, and in particular, patients who do not respond to the therapy with checkpoint inhibitors. 4SC believes that 4SC-202 is the only epigenetic compound for which such a clinical investigation is planned in this indication at the present time and expects to announce headline results from the study in H2 2018.

In the Phase II EMERGE study – to be conducted by an internationally renowned academic institution – 4SC-202 will also be tested in combination with an immuno-oncological compound for treating gastrointestinal tumors starting in H2 2017. These tumors account for around 80% of intestinal cancers, and 4SC expects headline results to be available in 2019.

4SC-208

4SC-208 is a small molecule specifically targeting two kinases crucial for Hedgehog/GLI signaling, which is primarily controlled by epigenetic mechanisms. Inhibition of this signaling pathway has emerged as a highly effective strategy in obstructing the tumorigenic capacity of cancer stem cells (CSCs), responsible for metastases and recurrence of tumors.

The Hedgehog/GLI signaling pathway is critical for tumor development, proliferation and survival. To date in the industry, clinically tested Hedgehog inhibitors target the Hedgehog pathway upstream of the transcription factor GLI at the level of the SMO protein. However, Hedgehog signaling in CSCs is mostly activated downstream at

GLI level. 4SC-208 aims to inhibit at GLI level and thus potentially to overcome resistance to the Hedgehog inhibitors available so far.

4SC strongly believes that 4SC-208 is a promising drug candidate and intends to advance the compound into initial clinical studies in relevant cancer indications. Cancer indications that are particularly promising are those where resistance to therapies targeting the Hedgehog/GLI pathway is emerging.

In 2016, 4SC-208 was examined in preclinical *in vivo* models to document the intended mode of action. As a next step, 4SC-208 will enter into formal preclinical testing in order to initiate a Phase I clinical evaluation.

Significant events at Group level

There have been no significant events at Group level in Q1 2017.

EVENTS AFTER Q1 2017

Until publication of this Interim Communication there have been no events after Q1 2017 relevant to be reported.

OPPORTUNITIES AND RISKS

Please see pages 46 to 58 of the Annual Report 2016 for a detailed description of the risks and opportunities arising from the Company's business activities as well as its IT-based risk management and controlling system. The Company's risks and opportunities have remained virtually unchanged. The occurrence of any one of the risks described in the Annual Report – alone or in conjunction with each other – could have a negative impact on the results of operations, financial position and net assets of 4SC.

PUBLISHING INFORMATION

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4SC on the Internet

More information about 4SC, its products and development programs, is available on the Company's website, www.4SC.com, as well as the following information:

- previous reports on 4SC's progress and outlook
- audio recordings of conference calls
- presentations
- general investor information

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