



sophiris

## Sophiris Bio Provides Updates on Phase 2b Localized Prostate Cancer Trial

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### - Reiterates plans to move to Phase 3 with single administration of topsalysin

SAN DIEGO and VANCOUVER, British Columbia, Dec. 17, 2018 /PRNewswire/ -- Sophiris Bio Inc. (NASDAQ: SPHS) (the "Company" or "Sophiris"), a biopharmaceutical company studying topsalysin (PRX302), a first-in-class, pore-forming protein, in late-stage clinical trials for the treatment of patients with urological diseases, today provides an update from its Phase 2b study of topsalysin for localized prostate cancer, including top-line safety and biopsy results from the patients who received a second administration of study drug, which appeared to be safe and generally well-tolerated. Additional benefit was not observed on targeted biopsy six months after re-treatment with a second administration of topsalysin.

As previously stated, a total of 27% of patients (10/37) demonstrated a clinical response six months following a single administration of topsalysin. Six of the ten clinical responders experienced a complete ablation of their tumor. Based on these results, the Company is moving forward with its plans to propose a single Phase 3 registration trial design using a single administration of topsalysin, which it will discuss with regulatory agencies in the coming months.

"We remain encouraged by both the safety and biopsy data from the first administration of topsalysin and are working with Sophiris to design a protocol for a potential Phase 3 registration study using a single administration of topsalysin," stated Professor Mark Emberton, principal investigator in the Phase 2b trial and Dean of the University College London Faculty of Medical Sciences. "These data show that 27% of the patients who receive a single administration of topsalysin may avoid or delay the need for alternative treatment for their localized prostate cancer. Taking into account the observed efficacy and safety profile to date following a single administration, we believe urologists would welcome a treatment like topsalysin for men with clinically-significant localized prostate cancer."

### Final Safety and Biopsy Results from a Single Administration of Topsalysin:

The primary objectives of the Phase 2b clinical study were to evaluate the safety, tolerability and efficacy, as assessed by targeted biopsy, of a single administration of topsalysin, when used to focally ablate a histologically-proven, clinically-significant lesion in patients with low-to-intermediate localized prostate cancer. In the trial, 38 patients received a single administration of topsalysin. Six months after administration, 37 of the 38 patients received a follow-up targeted biopsy of the treated lesion, with one patient having been lost to follow-up following re-location.

Based on the final results of the study, a single administration of topsalysin continues to appear safe and well-tolerated by patients. Adverse events considered related to topsalysin were typically mild and typically occurred and were resolved on the day of the administration. In addition, urine function was preserved, no sexual dysfunction, no hypersensitivity reactions or other serious systemic reactions to study medication were observed after a single administration.

The final six-month follow-up biopsy results demonstrated that 27% of patients (10/37) achieved a clinical response, defined in this study as no detectable tumor on targeted biopsy of the treated lesion or a sufficient reduction to deem the lesion clinically-insignificant (Gleason Score 6 (3+3) and a Maximum Cancer Core Length (MCCL) of less than 6 millimeters). Of the ten clinical responders in the Phase 2b study, six men experienced a complete ablation with no histological evidence of the tumor remaining.

Additionally, the final Phase 2b single administration follow-up biopsy data show that:

- 41% of patients (15/37) experienced a partial response, defined as a reduction in MCCL and/or Gleason pattern, but the targeted lesion was still deemed clinically-significant; and
- 32% (12/37) of patients did not respond to treatment, defined as no change in the targeted lesion or an increase in MCCL and/or Gleason pattern.

"Now that we have completed this Phase 2b study, we are focused on moving topsalysin into Phase 3 development," stated Randall E. Woods, President and CEO of Sophiris. "We are in the process of finalizing our proposed Phase 3 study design with our thought leaders, which will be submitted for discussion first to the European and then U.S. regulatory authorities to confirm the design of the Phase 3 study. We are equally focused on determining the best path forward for funding a potential Phase 3 study and continue to engage in business development discussions as part of this effort. We are also encouraged to see such strong interest from the medical community in the development of a focal treatment for clinically-significant localized prostate cancer."

### Top-line Results from the Second Administration of Topsalysin

Another important objective for this Phase 2b study was to evaluate the safety of re-administering topsalysin, and to determine if additional clinical benefit could be observed following re-treatment of the targeted lesion six months after initial treatment, as assessed by targeted biopsy six months after re-administration. To be eligible to receive a second dose, patients must not have experienced a clinically-significant adverse event attributable to either topsalysin or the dosing procedure. Additionally, patients must have demonstrated evidence of a response to the first treatment with topsalysin, either through a reduction in lesion size, Gleason pattern, or MCCL. No patients who had a complete ablation following the first dose received a second administration.

A top-line review of the safety data from a total of ten patients who received a second administration indicates that a second dose appears to be both safe and well-tolerated by patients. There were no adverse events considered related to topsalysin that were experienced by more than one patient following the second administration. The adverse events that were considered related to topsalysin were typically mild and resolved within two days.

Importantly, no hypersensitivity reaction or other serious systemic reactions to topsalysin were observed. Urine function was preserved and there were no reports of sexual dysfunction related to topsalysin. As previously reported, an eleventh patient received a second dose but unfortunately experienced a serious adverse event of sudden cardiac death which, following a thorough review of medical records, serology results and autopsy findings, was considered unlikely related to topsalysin by both the investigator and Company.

Based on the top-line review of the six-month biopsy results following the second administration of topsalysin, the Company has concluded that there appears to be no additional clinical benefit gained with a second administration. The decision to include a second administration of topsalysin in any future clinical studies is under review by the Company.

"While we are disappointed that no additional ablation occurred following a second administration of topsalysin, we had already planned the Phase 3 study around a single administration and will continue to move forward accordingly, while we continue to evaluate the potential benefit of a second dose separately," noted Professor Emberton. "The results from the second administration in no way impacts our excitement about topsalysin as a potential targeted focal therapy in localized prostate cancer.

#### **Webcast scheduled for today at 9:00 a.m. Eastern Time**

The Sophiris management team will host a conference call and webcast today, December 17, at 9:00 a.m. Eastern Time to review the topsalysin prostate cancer data, along with Professor Mark Emberton, Dean of University College London Faculty of Medical Sciences and Principal investigator for the Phase 2b clinical trial.

A live audio webcast will be accessible on the "Investor Relations" page of the Sophiris corporate website at [www.sophirisbio.com](http://www.sophirisbio.com). A replay will be available at the same location.

#### **About Localized Prostate Cancer**

Prostate cancer is the second most common form of cancer in men in the US with an estimated 161,000 new cases in 2017. Approximately 80 percent of patients in the US are diagnosed with localized disease. Research has shown that patients with early, localized disease have a low likelihood of the cancer spreading beyond the confines of the prostate; however, many men with clinically-significant localized disease choose to undergo radical treatment. Radical therapies include surgery to remove the entire prostate and/or radiation. Potential toxicities from radical treatments can be significant and permanent and include erectile dysfunction, urinary incontinence and rectal toxicity.

#### **About Topsalysin**

Topsalysin (PRX302), an innovative, "First-in-Class" transmembrane pore-forming protein, was genetically modified to be activated only by enzymatically-active PSA, which is produced in large quantities within the prostate of men with prostate cancer. The targeted focal treatment of prostate cancer is in line with current treatment trends for solid tumors such as breast and liver, where the goal is to remove the tumor and preserve as much of the organ and organ function as possible.

Topsalysin has the potential to provide a targeted focal therapy for the ablation of localized prostate cancer lesions while potentially avoiding many of the complications and side effects associated with whole gland radical treatments. The increasing use of multiparametric magnetic resonance imaging (mpMRI) and advances in software to co-register previously obtained mpMRI images with real-time three-dimensional ultrasound images enables urologists to more accurately locate tumors within the prostate when taking biopsies. This increases the accuracy with which men with clinically significant lesions are identified. It also enables the injection of an ablative agent, such as topsalysin, directly into previously identified clinically significant tumors located within the prostate.

#### **About Sophiris**

Sophiris Bio Inc. is a late-stage clinical biopharmaceutical company developing topsalysin (PRX302) for the treatment of patients with urological diseases. Topsalysin is in Phase 2 clinical development for the focal treatment of localized prostate cancer as well as Phase 3 clinical development for the treatment of the lower urinary tract symptoms of benign prostatic hyperplasia (BPH). Topsalysin is a highly potent ablative agent that is selective and targeted in that it is only activated by enzymatically active PSA which is found in high concentrations in the transition zone of the prostate and in and around prostate tumor cells. More than 450 patients have received treatment with topsalysin, which continues to appear to be safe and well tolerated. For more information, please visit [www.sophirisbio.com](http://www.sophirisbio.com).

*Certain statements included in this press release may be considered forward-looking, including the quotes of Sophiris' President and CEO, and the quote of the principal investigator and expectations about further development of topsalysin (PRX302), including the expected advancement of topsalysin to a single Phase 3 clinical trial for the treatment of localized prostate cancer and the expectations that the company will be able to fund a Phase 3 clinical trial. Such statements involve known and unknown risks, uncertainties and other factors that may cause actual results, performance or achievements to be materially different from those implied by such statements, and therefore these statements should not be read as guarantees of future performance or results. Some of the risks and uncertainties that could cause actual results, performance or achievements to differ include without limitation, risks associated with clinical development, including the risks relating to the design of a possible Phase 3 clinical trial in localized prostate cancer, risks that the manufacturing of clinical drug supply for Phase 3 clinical trials will not be completed when expected or at the expected costs, risks that the Company will be able to fund future clinical trials, and risks relating to the timing and conduct of any future Phase 3 clinical trials and other risks and uncertainties identified by Sophiris in its public securities filings with the SEC. All forward-looking statements are based on Sophiris' current beliefs as well as assumptions made by and information currently available to Sophiris and relate to, among other things, anticipated financial performance, business prospects, strategies, regulatory developments, clinical trial results, market acceptance, ability to raise capital and future commitments. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this press release. Due to risks and uncertainties, including the risks and uncertainties identified by Sophiris in its public securities filings; actual events may differ materially from current expectations. Sophiris disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.*

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