PRESS RELEASE

Onxeo to Present Data supporting Lead Asset AsiDNA™ in 5 Poster Presentations at 2019 American Association for Cancer Research Annual Meeting

Paris (France), March 25, 2019 – 6.00 pm CET - Onxeo S.A. (Euronext Paris, NASDAQ Copenhagen: ONXEO), ("**Onxeo**" or "the **Company**"), a clinical-stage biotechnology company specializing in the development of innovative drugs targeting tumor DNA Damage response (DDR) in oncology, in particular against rare or resistant cancers, today provides details on the presentation of data from five studies supporting the company's lead drug candidate, AsiDNA™, in poster sessions at the upcoming American Association for Cancer Research (AACR) Annual Meeting being held March 29 - April 3, 2019, in Atlanta, GA, USA.

Françoise Bono, PhD, Chief Scientific Officer, commented: "*We are very pleased to have five studies accepted and presented at the prominent AACR meeting as it reflects the interest, the quality and the diversity of our current translational research on AsiDNA™. Through these data, we further demonstrate the uniqueness of our lead compound in terms of mechanism of action and its related unique properties, especially on preventing the occurrence of resistance to treatment, one of the major issues in oncology today. All these data complement and reinforce our rationale for the continued clinical development of AsiDNA™ expected to start in the coming weeks, now that we have identified the active doses that trigger target engagement and confirmed the favorable safety profile in our phase I DRIIV study. We look forward to presenting and discussing our very exciting findings during the conference.*"

Details of the sessions on April 1 and 2, 2019 include:

Abstract 2095 / Poster 2 **– AsiDNA™, a targeted therapy with no acquired resistance**

Session:	PO.ET03.03. Drug Resistance 3
Date:	Monday, April 1
Time:	1:00 p.m. – 5:00 p.m. ET
Location:	Section 11

AsiDNA™ is the first antitumor drug with an agonist activity. This study demonstrates that long term exposure of cancer cells to the strong alarm signal, generated by AsiDNA™ does not promote resistance emergence. It induces a stable new state characterized by the down regulation of the targeted pathways that persists for months after treatment. This property is due to the original mechanism of action of AsiDNA™, which acts by over-activating a "false" signaling of DNA damage through DNA-PK and PARP enzymes. Such property is not observed with other DNA repair inhibitors such as the PARP inhibitors olaparib and talazoparib. Long term treatment with AsiDNA™ induces the occurrence of an "alarm down" state in the tumor cells that increases product's efficacy. These results suggest that agonist drugs such as AsiDNA™ could promote a state-dependent tumor cell evolution by lowering their ability to respond to damage signal.

Abstract 2130 / 7 **– Development of a biomarker-driven patient selection strategy for AsiDNA™ treatment** (collaboration with *Institut Curie)*

Session:	PO.ET04.04 - Molecular Classification of Tumors
Date:	Monday, April 1
Time:	1:00 p.m. – 5:00 p.m. ET
Location:	Section 12

Accurate evaluation and prediction of response to anti-cancer treatment remain a great challenge. Stratification biomarkers are of great value to identify responders or non-responders to a specific drug, or even to distinguish between early and delayed responses. In this study, we identified a gene signature to predict AsiDNA™ treatment

efficacy in patients. As AsiDNA™ is being currently tested in a clinical trial, a potential exists for a rapid validation of our gene set in the aim to develop a biomarker-driven patient selection strategy for AsiDNA™ treatment.

Abstract 2918 / 6 **– Molecular analysis of the mechanism of action of AsiDNA™ brings new clues on DNA damage response regulation**

Session:	PO.TB09.01 - Tumor Radiosensitivity or Resistance
Date:	Tuesday, April 2
Time:	8:00 a.m. – 12:00 p.m. ET
Location:	Section 8

In this study, we investigated the different steps involved in AsiDNA™ activity. Data show that AsiDNA™ inhibits NHEJ and HR double-strand break DNA repair by preventing the recruitment of key enzymes at break sites. The inhibition of NHEJ proteins recruitment is the earliest event and requires PARP activity. The inhibition of HR proteins appears lately and is dependent upon DNA-PK activation. PARP activation induces metabolism change that might participate to the antitumoral activity of AsiDNA™. These results highlight the unique mechanism of action of AsiDNA™ through the activation of two complementary key enzymes involved in DNA damage response.

Abstract 2865 / 6 **– AsiDNA™, a novel DNA repair inhibitor to sensitize aggressive medulloblastoma subtypes** *(Institut Curie)*

Session:	PO.TB09.01 - Targets and Therapies in Pediatric Cancer
Date:	Tuesday, April 2
Time:	8:00 a.m. – 12:00 p.m. ET
Location:	Section 6

Medulloblastoma is pediatric tumor of the cerebellum. It represents the most frequent malignant brain tumor in childhood. Patients who survive often present severe treatment-related morbidity. It is therefore important to improve treatment efficacy in more aggressive subgroups as well as reduce treatment-related morbidity across all subgroups. In this study, no increase of irradiation toxicity was observed with AsiDNA™. In vivo, AsiDNA™ alone significantly enhances survival rates (p=0.005) and increases radiotherapy efficacy. When combined with radiotherapy, AsiDNA™ led to delay in tumor growth and survival improvement as compared to radiotherapy alone.

Abstract 3797 / 2 **– AsiDNA™ abrogates acquired resistance to PARP inhibitors**

Session:	PO.ET03.05 - Drug Resistance 5
Date:	Tuesday, April 2
Time:	1:00 p.m. – 5:00 p.m. ET
Location:	Section 10

PARP inhibitors (PARPi) are approved for the treatment of homologous recombination (HR)-deficient cancers. Despite the success of this approach, drug resistance remains a clinical hurdle. In our study, long term exposure of cancer cells to PARPi induced the emergence of resistance in all the tested independent populations, raising the question of the clinical benefit of long-term maintenance monotherapy with PARPi. Interestingly, double-treated populations with AsiDNA™ (2.5µM - low non cytotoxic dose) and talazoparib or olaparib showed a significant lower probability of resistance occurrence. Furthermore, AsiDNA™ is able to partially revert talazoparib resistance in resistant populations. Our results indicate that AsiDNA™ may abrogate and reverse PARPi acquired resistance by the normalization of the expression and activity of involved proteins.

About Onxeo

Onxeo (Euronext Paris, NASDAQ Copenhagen: ONXEO) is a clinical-stage biotechnology company developing innovative oncology drugs targeting tumor DNA-binding functions through unique mechanisms of action in the sought-after field of DNA Damage Response (DDR). The Company is focused on bringing early-stage first-in-class or disruptive compounds (proprietary, acquired or in-licensed) from translational research to clinical proof-of-concept, a value-creating inflection point appealing to potential partners.

Onxeo is developing **AsiDNA™**, a first-in-class, highly differentiated DNA Damage Response (DDR) inhibitor based on a unique decoy & agonist mechanism acting upstream of multiple DDR pathways. Translational research has highlighted the unique properties of AsiDNA™, notably its ability to oppose and even reverse tumor resistance to PARP inhibitors regardless of the

genetic mutation status, and its strong synergy with other tumor DNA-damaging agents such as chemotherapy and PARP inhibitors. The ongoing Phase I study DRIIV-1 (DNA Repair Inhibitor-administered IntraVenously) evaluates AsiDNA™ by systemic administration (IV) in solid tumors and has recently produced favorable tolerability and activity results.

AsiDNA™ is the first compound generated from **platON™**, the Company's proprietary chemistry platform of decoy oligonucleotides dedicated to generate new innovative compounds and broaden Onxeo's pipeline.

Onxeo's portfolio also includes **belinostat**, an HDAC inhibitor (epigenetics). Belinostat is already conditionally FDA-approved in the US as a 2nd line treatment for patients with peripheral T cell lymphoma and marketed in the US under the name Beleodaq® (belinostat IV form).

For further information, please visit www.onxeo.com.

Forward looking statements

This communication expressly or implicitly contains certain forward-looking statements concerning Onxeo and its business. Such statements involve certain known and unknown risks, uncertainties and other factors, which could cause the actual results, financial condition, performance or achievements of Onxeo to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Onxeo is providing this communication as of this date and does not undertake to update any forward-looking statements contained herein as a result of new information, future events or otherwise. For a discussion of risks and uncertainties which could cause actual results, financial condition, performance or achievements of Onxeo to differ from those contained in the forward-looking statements, please refer to the section 5.7.1.4 "Risk Factors" ("*Facteurs de Risque*") of the 2017 registration document filed with the *Autorité des marchés financiers* on April 25, 2018 under number D.18-0389, which is available on the *Autorité des marchés financiers* website (www.amf-france.org) or on the Company's website (www.onxeo.com).

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