PRESS RELEASE

Onxeo Announces Positive Interim Results from Phase 1 Study of AsiDNA™, a First-In-Class DNA Damage Response Inhibitor

- ***Robust biological target engagement in patient tumor cells confirms the activity of AsiDNA™ when administered intravenously***
- ***Favorable safety profile with no drug-related serious adverse event and no dose-limiting toxicity***
- ***Company intends to expand AsiDNA™ clinical program in combination in targeted indications as soon as H1 2019***

Company to host a conference call for analysts and investors today at 5.30 pm CET
(Login details at the end of this press release)

Paris (France), November 5, 2018 – 7.30 am CET - Onxeo S.A. (Euronext Paris, NASDAQ Copenhagen: ONXEO), a clinical-stage biotechnology company specializing in the development of innovative drugs in oncology targeting tumor DNA Damage Response (DDR) to fight resistant cancers, today announced positive interim results from the first three dose levels already evaluated out of six planned in its Phase 1 DRIIV-1 study of AsiDNA™, the Company's first-in-class DNA Damage Response inhibitor.

A total of 10 patients with advanced solid tumors received 112 infusions of AsiDNA™ ranging from 200mg (DL1) to 600mg (DL3). The administration of DL4 (900mg) is ongoing and the full data set from DRIIV-1 is expected to be available in the first half of 2019.

Judith Greciet, Chief Executive Officer of Onxeo, said: *"We are very pleased to report highly compelling interim results from our DRIIV-1 study. Beyond the safety endpoints of all phase 1 studies, DRIIV-1 was foremost designed to demonstrate that AsiDNA™ administered intravenously activates in patients' tumors cells the intended DNA Damage Response biological targets. Midway through the study, data show that robust target engagement was demonstrated as early as the second dose level, which represents a meaningful proof-of-mechanism of AsiDNA™ in man. In addition, the results indicate a favorable safety profile for AsiDNA™ in a difficult-to-treat patient population. These proof-of-mechanism and activity results further support the clinical potential of AsiDNA™ in solid tumors and represent a major value catalyst in the development of our first-in-class drug candidate."*

Pharmacokinetic parameters

Both Cmax (maximal concentration) & AUC (area under the curve) data show dose proportionality from dose level 1 to dose level 3, with systemic exposure rising proportionally to the dose.

Pharmacodynamic parameters (activity data)

In accordance with the study protocol, biopsies were performed during cycle 2 of treatment with AsiDNA™ and analyzed by comparison with baseline biopsies. Target engagement by AsiDNA™ was measured by quantifying through immuno-histochemistry two established biomarkers of the activation of DNA-PK, a major target for AsiDNA™, gH2AX and pHSP90.

Post-treatment biopsies were available and analyzed for four patients (two post-DL2 and two post-DL3), showing a robust activation of DNA-PKA as evidenced by a significant post-treatment increase in the quantification of these activity biomarkers in patients' tumor tissue. These data confirmed strong target engagement and activity in tumors at these two AsiDNA™ dosages.

Furthermore, the quantification of a well-known tumor proliferation biomarker, Ki67, showed a clear decrease of the proliferation rate in tumors of three patients and stabilization in one patient.

Safety data

Intravenous administration of AsiDNA™ was generally well-tolerated at DL1, DL2 and DL3, with no drug- related serious adverse event and no dose-limiting toxicity.

Olivier de Beaumont, Chief Medical Officer of Onxeo, concluded: *"We are very encouraged by these first safety and proof-of-mechanism data, which confirm the activity and tolerability of AsiDNA™ via systemic administration. AsiDNA™ is now ready to enter the next stage of its clinical development. Our translational work on the combination of AsiDNA™ with PARP inhibitors is indicative of the unique properties of this combination, such as the prevention, and even reversal, of the resistance to PARP inhibitors. Promising data have also been obtained in combination with DNA-damaging agents such as platins or taxanes. Combining AsiDNA™ with these agents will therefore be our first priority as we expand its clinical development to Phase1b/2 efficacy studies in combination in 2019. In parallel, the DRIIV-1 study is progressing to plan and we are on track to deliver full results in the first half of 2019."*

Onxeo will host a conference call in English with a Q&A session for analysts and investors at 5:30 pm CET / 11:30 pm ET today to discuss this announcement

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Access to the management presentation prior to the call

An audio replay file will be made available after the session on Onxeo's website.

About the DRIIV-1 study

DRIIV-1 (DNA Repair Inhibitor administered IntraVenously) is an open-label, dose escalation, Phase 1 study evaluating the safety, pharmacokinetics (PK) and pharmacodynamics (PD) of AsiDNA™ via systemic (IV) administration in patients with advanced solid tumors. The study is being conducted at leading oncology centers in France and Belgium.

Six dose levels (DLs) are planned (DL1 to DL6): 200mg, 400mg, 600mg, 900mg, 1,300mg and 1,800mg. All patients receive a loading dose of AsiDNA™ for 3 consecutive days (1-hour IV infusion at day 1, day 2 and day 3), followed by a one-hour IV infusion once a week (at day 8 and day 15) of a 21 days treatment period (1 cycle = 21 days). In each subsequent cycle, AsiDNA™ is administered on a weekly basis (day 1, day 8 and day 15) of a 21 days treatment period. Patients are continuing study treatment until disease progression, unacceptable toxicity or patient's refusal to continue.

Each dose level is stepped up following validation by a Data Safety Monitoring Board.

The primary objective is to determine dose-limiting toxicities and maximum tolerated dose of IV infusion of AsiDNA™. Secondary objectives are to assess the safety profile, PK parameters and target engagement of AsiDNA™ based on the quantification of activity biomarkers in tumor tissue (YH2AX, pHSP90). In addition, proliferation tumor status as measured by KI67 immunostaining, and preliminary efficacy of AsiDNA™, are also being evaluated.

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. AsiDNA™ is currently being evaluated for systemic (IV) administration in advanced solid tumors in the DRIIV-1 phase I study (DNA Repair Inhibitor administered IntraVenously).

AsiDNA™ is the first compound generated from **platON™**, the Company's proprietary chemistry platform of decoy oligonucleotides dedicated to generate new innovative leads 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 by Onxeo's partner, Spectrum Pharmaceuticals, 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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