OSE Immunotherapeutics Presented Positive Final Results of Tedopi® Phase 3 Clinical Trial in Secondary Resistant Non-Small Cell Lung Cancer Patients at the European Society for Medical Oncology (ESMO) Virtual Congress 2021

Results show statistical improvement in overall survival, favorable benefit/risk ratio and better quality of life in NSCLC patients after secondary resistance to checkpoint inhibitors

Nantes, France, September 20, 2021 - 1:45 PM CET – OSE Immunotherapeutics (ISIN: FR0012127173; Mnémo: OSE) today announced that the positive final results of its Phase 3 trial of neoepitope-based cancer vaccine Tedopi®, called Atalante 1, in HLA-A2 positive patients with advanced non-small cell lung cancer (NSCLC) after immune checkpoint inhibitor (PD-1/PD-L1) failure, were presented in a late-breaking oral presentation[(1)] at the European Society for Medical Oncology (ESMO) Virtual Congress being held on September 16 – 21, 2021.

Pr. Benjamin Besse, Director of Clinical Research at Gustave Roussy (Villejuif, France), and Principal Investigator of the Atalante 1 study, commented: *"There was a lot learned during this trial about Tedopi® and its potential clinical benefit that will help inform future studies in the immunotherapy field. Applying the 2020 SITC[(2)] guidelines defining resistance categories for PD-1/PD-L1 checkpoint inhibitors to our trial, developed while this trial was ongoing, suggest there is great potential for Tedopi® in patients with secondary resistance[(3)]. Therefore, we are very pleased to share such very promising results demonstrating the substantial benefits of Tedopi® for NSCLC patients with secondary resistance to anti-PD-1 treatments, a hard to treat patient population with high medical need."*

The Atalante 1 clinical trial evaluated the benefit of Tedopi® in an HLA-A2 positive patient population with NSCLC at invasive stage IIIB or metastatic stage IV, in 2nd or 3rd line treatment following checkpoint inhibitor failure. The Tedopi® treatment was compared to docetaxel or pemetrexed chemotherapy (CT) treatments in this patient population, with overall survival as the primary endpoint of the trial.

Positive Phase 3 step-1 results, presented at ESMO 2020[(4)], identified a Population of Interest (PoI) of secondary resistance defined as failure after a minimum of 12 weeks after immune checkpoint inhibitor treatment sequential to platinum-based chemotherapy. This PoI was chosen as the primary population for the final analysis.

A total of 219 patients were enrolled in Atalante 1. 183 (84%) of these patients received sequential CT-immunotherapy (IO), of which 118 patients (54%) met the definition of PoI, with otherwise similar other baseline characteristics to the overall Atalante 1 population.

Tedopi® demonstrated a favorable benefit/risk ratio versus standard of care (SoC) docetaxel or pemetrexed in advanced HLA-A2+ NSCLC patients with secondary resistance to immune checkpoint inhibitors.

The main results were:

Improved efficacy

1. Overall survival (primary endpoint) was statistically significantly improved for Tedopi®: HR=0.59 (95% CI: 0.38, 0.91) in favor of the Tedopi® arm.

A clinically meaningful gain in median overall survival of 3.6 months in favor of the Tedopi® arm with Tedopi® OS at 11.1 months versus 7.5 months for SoC (p=0.017).

2. The objective response rate and progression free survival (PFS) were lower in the Tedopi® arm, as expected for a therapeutic vaccine versus a cytotoxic drug while at 6 months, the disease control rate (DCR) was similar (25 % Tedopi® versus 24 % SoC).
3. Post progression survival was also significantly longer in the Tedopi® arm (7.7 months versus 4.6 months; p=0.004).

Improved safety profile

1. A good ECOG performance status[5], with time to ECOG deterioration significantly longer in the Tedopi® arm (8.6 months versus 3.3 months; p=0.0005).
2. A maintained quality of life was observed with Tedopi® (p= 0.04).
3. A good tolerance profile of Tedopi® with fewer Severe Adverse Events (Tedopi® 38% vs SoC 68%, p<0.001). No Treatment Emergent Adverse Effects of concern in the Tedopi® arm.

Alexis Peyroles, Chief Executive Officer of OSE Immunotherapeutics, said: *"We want to thank the patients and investigators involved in this study with very encouraging results, positioning Tedopi® as a valid potential therapeutic vaccine treatment for this specific patient population that lacks effective treatment options. Based on these promising clinical benefits and good safety profile, we plan to continue to work with the FDA and EMA to discuss the optimal regulatory paths and next steps to register Tedopi® in both territories and evaluate how these positive results can support this objective. OSE has already initiated further development of Tedopi® in combination with a PD-1 targeted checkpoint inhibitor in NSCLC for patients in secondary resistance to checkpoints in collaboration with Italian FoRT Foundation. Beyond NSCLC, the Atalante 1 data pave the way to a potential new therapeutic vaccine strategy which, by activating T lymphocytes, might optimize a checkpoint inhibitor or chemotherapy treatment".*

[1] **Details of the presentation**

Proffered Paper session – NSCLC, Metastatic 2

"*Activity of OSE-2101 in HLA-A2+ non-small cell lung cancer (NSCLC) patients after failure to immune checkpoint inhibitors (IO): Final results of Phase 3 Atalante-1 randomised trial*"

Presentation number :	LBA47
Speaker:	Benjamin Besse (Villejuif, France)
Date:	Monday, September 20th
Lecture time:	13:30 – 13:40 CEST
Location:	Channel 4

[2] *Society for Immunotherapy of Cancer*

[3] *Secondary resistance is defined as failure after a minimum of 12 weeks of Immune checkpoint inhibitor given in sequential Chemotherapy – Checkpoint inhibitors treatment (Kluger HM et al; Journal for immunoTherapy of Cancer 2020 Defining tumor resistance to PD-1 pathway blockade: recommendations from the first meeting of the SITC Immunotherapy Resistance Taskforce)*

[4] *Giaconne et al, ESMO 2020 #1260MO*

[5] *The ECOG score is a performance scale used to quantify the general health condition of a patient. It is subdivided into 5 grades from 0 to 5, ranging from fully active (0) to fully disabled, then to death (5).*

ABOUT OSE Immunotherapeutics

OSE Immunotherapeutics is an integrated biotechnology company focused on developing and partnering therapies to control the immune system for immuno-oncology and autoimmune diseases. The company's immunology research and development platform is focused on three areas: T-cell-based vaccination, Immuno-Oncology (focus on myeloid targets), Auto-immunity & Inflammation. Its balanced first-in-class clinical and preclinical portfolio has a diversified risk profile:

Vaccine platform

- **Tedopi®** (innovative combination of neoepitopes): the company's most advanced product; positive final results of the Phase 3 trial (Atalante 1) in Non-Small Cell Lung Cancer patients after secondary resistance to checkpoint inhibitors.
  In Phase 2 in pancreatic cancer (TEDOPaM), sponsor GERCOR.
  In Phase 2 in ovary cancer, in combination with pembrolizumab (TEDOVA), sponsor ARCAGY-GINECO.
  In Phase 2 in non-small cell lung cancer in combination with nivolumab, sponsor Italian foundation FoRT.
- **CoVepiT**: a prophylactic second-generation vaccine against COVID-19, developed using SARS-CoV-2 optimized epitopes against multi variants. Positive preclinical and human ex vivo results. Voluntary and temporary Phase 1 enrollment suspension on-going (July 2021).

Immuno-oncology platform

- **BI 765063** (OSE-172, anti-SIRPα mAb on CD47/SIRPα pathway): developed in partnership with Boehringer Ingelheim in advanced solid tumors; positive Phase 1 dose escalation results of BI 765063 in monotherapy or in combination with ezabenlimab (PD-1 antagonist); Expansion Phase 1 open for screening.
- **CLEC-1** (novel myeloid checkpoint target): identification of mAb antagonists of CLEC-1 blocking the "Don't Eat Me" signal that increase both tumor cell phagocytosis by macrophages and antigen capture by dendritic cells.
- **BiCKI®**: bispecific fusion protein platform built on the key backbone component anti-PD-1 (OSE-279) combined with new immunotherapy targets; 2nd generation of PD-(L)1 inhibitors to increase antitumor efficacity.

Auto-immunity and inflammation platform

- **FR104** (anti-CD28 monoclonal antibody): Licensing partnership agreement with Veloxis in the organ transplant market; ongoing Phase 1/2 in renal transplant (sponsored by the Nantes University Hospital); Phase 2-ready asset in an autoimmune disease indication.
- **OSE-127/S95011** (humanized monoclonal antibody targeting IL-7 receptor): developed in partnership with Servier; positive Phase 1 results; in Phase 2 in ulcerative colitis (OSE sponsor) and an independent Phase 2a is being conducted in Sjögren's syndrome (Servier sponsor).
- **OSE-230** (ChemR23 agonist mAb): first-in-class therapeutic agent with the potential to resolve chronic inflammation by driving affected tissues to tissue integrity.

For more information: https://ose-immuno.com/en/
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Forward-looking statements

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or identified in the public filings made by OSE Immunotherapeutics with the AMF. Such forward-looking statements are not guarantees of future performance. This press release includes only summary information and should be read with the OSE Immunotherapeutics Universal Registration Document filed with the AMF on 15 April 2021, including the annual financial report for the fiscal year 2020, available on the OSE Immunotherapeutics' website. Other than as required by applicable law, OSE Immunotherapeutics issues this press release at the date hereof and does not undertake any obligation to update or revise the forward-looking information or statements.