First Publication from OSE Immunotherapeutics on the Role of SIRPα in the Induction and Maintenance of Immune Tolerance in the American Journal of Transplantation

- ***Findings show the role of the SIRPα/CD47 axis in the maintenance of acquired immune tolerance***
- ***Highlights the differentiated mechanism of action of OSE's innovative myeloid checkpoint inhibitor BI 765063 (OSE-172), a selective SIRPα antagonist, currently in Phase 1 clinical testing***

Nantes, France, July 17, 2019 - 7:00 a.m. CET - OSE Immunotherapeutics (ISIN: FR0012127173; Mnemo: OSE) announces a scientific publication in the American Journal of Transplantation[(1)]. This publication is the first from the Company's R&D team on SIRPα, a receptor expressed by myeloid lineage cells, and the target of its immuno-oncology program asset BI 765063 (OSE-172).

This article, entitled "*SIRPα/CD47 axis controls the maintenance of transplant tolerance sustained by myeloid-derived suppressor cells*" describes the important role of the SIRPα/CD47 axis in the induction and maintenance of acquired immune tolerance. Based on a transplant model, the OSE R&D team demonstrated that blockade of the inhibitory SIRPα molecule breaks allograft immune tolerance, in part by modifying both the phenotype and the function of regulatory MDSC (myeloid-derived suppressive cells) and the macrophage response.

MDSC and macrophages being key cells in the tumor microenvironment and as a result, the OSE team first evaluated the role of SIRPα myeloid checkpoint blockade in breaking abnormal tolerance to cancer cells. These findings subsequently helped guide development of myeloid checkpoint inhibitor BI 765063, a selective SIRPα antagonist.

BI 765063 is currently in a Phase 1 clinical trial initiated in March 2019. This first-in-class checkpoint inhibitor is being evaluated as a single agent and in combination with Boehringer Ingelheim's monoclonal antibody PD-1 antagonist BI 754091, a lymphocyte T checkpoint inhibitor, in patients with advanced solid tumors. The trial aims to characterize safety, pharmacokinetics, pharmacodynamics and preliminary efficacy in this patient population. The study is conducted by OSE Immunotherapeutics as part of a collaboration and license agreement with Boehringer Ingelheim under which Boehringer Ingelheim obtained exclusive rights to BI 765063, signed in April 2018.

"OSE's expertise in preclinical research capitalizes on our strong knowledge of the pathways controlling immune activation and regulation, which have been leveraged to develop technologies that target master switch receptors of immune cells. Our findings, initially from transplantation immunology, and our discoveries on mechanisms regulating or reinforcing immune tolerance could be directly translated oppositely to applications in immuno-oncology to re-instate efficient immune responses. This highlights a differentiated and innovative R&D model of thinking implemented by OSE, which has provided a number of first-in-class developmental products in immuno-oncology and autoimmune diseases," said Nicolas Poirier, chief scientific officer of OSE Immunotherapeutics. *"First-in-class BI 765063 myeloid checkpoint inhibitor illustrates this original research approach in the very attractive and competitive field of myeloid suppressive cells and tumor associated macrophages. That is how the development of selective SIRPα antagonist BI 765063 has progressed until the ongoing Phase 1 clinical study in advanced solid tumors, conducted in collaboration with partner Boehringer Ingelheim."*

(1)**SIRPα/CD47 axis controls the maintenance of transplant tolerance sustained by myeloid-derived suppressor cells**

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ABOUT OSE Immunotherapeutics

OSE Immunotherapeutics is a clinical-stage biotechnology company focused on developing and partnering therapies to control the immune system for immuno-oncology and autoimmmune diseases. The company has a diversified first-in-class clinical portfolio consisting of several scientific and technological platforms including neoepitopes and agonist or antagonist monoclonal antibodies, all ideally positioned to fight cancer and autoimmune diseases. The most advanced therapeutic-candidate, Tedopi®, is a proprietary combination of 10 neo-epitopes aimed at stimulating T-lymphocytes and is currently in Phase 3 development in non-small cell lung cancer (NSCLC) after checkpoint inhibitor failure (anti PD-1 and anti PD-L1) and in Phase 2 testing in pancreatic cancer in combination with checkpoint inhibitor Opdivo®. BI 765063 (OSE-172) (anti-SIRPa monoclonal antibody) is under a license and collaboration agreement with Boehringer Ingelheim; this checkpoint inhibitor is currently under Phase 1 clinical trial in advanced solid tumors. BiCKI® is a bispecific fusion protein platform built on the key backbone component anti-PD-1 (OSE-279) and targeting innovative targets. FR104 (an anti-CD28 mAb) has successfully completed Phase 1 testing and has potential to treat autoimmune diseases. OSE-127 (monoclonal antibody targeting the CD127 receptor, the alpha chain of the interleukin-7 receptor) is partnered with Servier under an option agreement up to the completion of a Phase 2 clinical trial planned in autoimmune bowel diseases; in parallel, Servier plans a development in the Sjögren syndrome. OSE-127 is currently under Phase 1 clinical trial.

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Forward-looking statements

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These forward-looking statements include statements typically using conditional and containing verbs such as "expect", "anticipate", "believe", "target", "plan", or "estimate", their declensions and conjugations and words of similar import. Although the OSE Immunotherapeutics management believes that the forward-looking statements and information are reasonable, the OSE Immunotherapeutics' shareholders and other investors are cautioned that the completion of such expectations is by nature subject to various risks, known or not, and uncertainties which are difficult to predict and generally beyond the control of OSE Immunotherapeutics. These risks could cause actual results and developments to differ materially from those expressed in or implied or projected by the forward-looking statements. These risks include those discussed 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 Reference Document filed with the AMF on 26 April 2019, including the annual financial report for the fiscal year 2018, 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.