

OSE Immunotherapeutics Announces Publication in Nature Communications on Anti-IL-7 Receptor Antagonist (OSE-127)

- Full Antagonist Mechanism of Action Demonstrated *In Vivo*
- Long-term Control of Specific Memory T Cell Mediated Autoimmunity and Chronic Inflammation

Nantes, October 29, 2018 – 8:00AM CET– OSE Immunotherapeutics SA (ISIN: FR0012127173; Mnémo: OSE), today announced publication in Nature Communications of its monoclonal antibody (OSE-127) targeting IL-7 Receptor (IL-7R) with full antagonist properties. This compound controls antigen-specific memory T cells mimicking pathogenic situations and chronic inflammation.

As IL-7 is the fuel driving chronic autoimmune and inflammatory diseases, this interleukin regulates mainly T cell proliferation and survival. Mature T cells express high levels of the IL-7 Receptor (IL-7R) except regulatory T cells expressing low level of IL-7 receptor.

In the article, the authors develop an original mechanism of action as *in vivo* the anti-IL-7 receptor mAb (monoclonal antibody OSE-127) targeting IL-7R demonstrates full antagonist properties related to its particular structure blocking 2 sites of IL-7R (“Sites 1 and 2b”). Two other mAbs, also against IL-7R but targeting only Site 1 of IL-7R, were tested in parallel and presented paradoxical agonist and antagonist properties limiting their efficacy.

In addition, the transcriptome (gene expression measured by RNA-SEQ) of human peripheral blood mononuclear cells (PBMCs representing lymphocyte types and monocytes) was analysed after incubation with the two types of IL-7R antagonists (Site 1 restricted mAbs or “Sites 1 and 2b” mAb/OSE-127). The results on human blood cells showed significant differences, as Site 1 restricted antibodies induced significant translational modifications of human PBMCs compatible with T cell activation and inflammatory responses, while “Sites 1 and 2b” mAb/OSE-127 did not induce such activation.

OSE-127 is targeting selectively pathogenic effector cells while preserving quiescent T cells and natural T cell regulators. These significant features are very important for clinical applications in autoimmune diseases and chronic inflammation.

Alexis Peyroles, CEO of OSE Immunotherapeutics, said “*We warmly congratulate all the first-class OSE team and network of experts involved for this major achievement. OSE-127, being developed in partnership with Servier ⁽¹⁾, is expected to enter phase 1 clinical phase and we are focused on this next coming step*”.

***“IL-7 receptor blockade blunts antigen-specific memory T cell responses and chronic inflammation”**

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(1) Servier is an independent international pharmaceutical company governed by a foundation with Headquarters based in France.

ABOUT OSE Immunotherapeutics

OSE Immunotherapeutics is a biotechnology company focused on the development of innovative immunotherapies for immune activation and regulation in the fields of immuno-oncology and autoimmune diseases. Neoepitopes innovation (Tedopi®) is today in Phase 3 in advanced lung cancers (NSCLC) after checkpoint inhibitors failure (anti PD-1 and anti PD-L1). A global license and collaboration agreement was signed in April 2018 with Boehringer Ingelheim to develop checkpoint inhibitor OSE-172 (anti-SIRPa monoclonal antibody), for the treatment of advanced solid tumors. An option to license was exercised in July 2016 by Janssen Biotech to continue clinical development of FR104 (an anti CD28 mAb) in auto-immune diseases after positive phase 1 results. A 2-step license option was signed in 2016 with Servier Laboratories to develop OSE-127 (monoclonal antibody targeting the CD127 receptor, the alpha chain of the interleukin-7 receptor) to develop the product up to the completion of a phase 2 clinical trial planned in autoimmune bowel disease and Sjogren's syndrome. The company has several scientific and technological platforms: neoepitopes, agonist or antagonist monoclonal antibodies, ideally positioned to fight cancer and autoimmune diseases. Its first-in-class clinical portfolio offers a diversified risk profile.

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Forward-looking statements

This press release contains express or implied information and statements that might be deemed forward-looking information and statements in respect of OSE Immunotherapeutics. They do not constitute historical facts. These information and statements include financial projections that are based upon certain assumptions and assessments made by OSE Immunotherapeutics' management in light of its experience and its perception of historical trends, current economic and industry conditions, expected future developments and other factors they believe to be appropriate.

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 2018, including the annual financial report for the fiscal year 2017, 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.