OSE Immunotherapeutics Presents New Data Analysis Supporting Continued Development of OSE-127 in Inflammatory Bowel Diseases

- **OSE-127 shown to have significant potential in patients with inflammatory bowel diseases (IBD) in therapeutic escape and with a strong medical need.**
- **Interleukin-7 receptor (IL-7R), target of OSE-127, overexpressed in the colon in patients in therapeutic escape after corticosteroids/immunosuppressors or anti-TNFα therapies.**
- **Overexpression of IL-7R in the colon predicting a non-response to anti-TNFα therapy.**

NANTES, France, 19 Dec. 2017, 8:00 a.m. CET – **OSE Immunotherapeutics** (ISIN: FR0012127173; Mnémo: OSE), presented new data from a transcriptome analysis that further supports the potential of OSE-127 (Effi-7) for the treatment of inflammatory bowel diseases, including Crohn's disease and ulcerative colitis. The oral presentation, entitled *"Interleukin-7 receptor pathway controls human T cell homing to the gut and predicts response to anti-TNFα in patients with inflammatory bowel disease"*, was presented at the 11th European Workshop on Immune Mediated Inflammatory Diseases, which took place December 14-16, 2017, in Paushuis-Utrecht, The Netherlands.

The presentation reported results from a transcriptomic analysis of colon biopsies in more than 500 patients and 100 controls in a large database available for specialized bioinformaticians. This analysis showed that both interleukin-7 receptor (IL-7R, target of OSE-127) and IL-7R signaling signature transcripts are strongly overexpressed in colon biopsies from patients with inflammatory bowel diseases, including Crohn's disease and ulcerative colitis, in therapeutic failure following treatment with corticosteroids, immunosuppressors or anti-TNFα treatment. Moreover, the level of IL-7R overexpression in colon biopsies from these patients was significantly correlated and predictive of non-response to anti-TNFα treatment.

"This strong expression of IL-7R in inflammatory bowel diseases in patients in therapeutic escape highlights the interest for the development of a treatment targeting this receptor, an original mechanism of action of the antagonist OSE-127, which blocks inflammation at the source. These translational data in humans, combined with our successfully completed preclinical studies, the results of which were presented at the FOCIS Congress in Chicago last June, reinforce the rationale for OSE-127 as a leading emerging therapy in chronic inflammation. As such, we look forward to initiating clinical phase for OSE-127 in 2018," said Nicolas Poirier, Scientific Director of OSE Immunotherapeutics.

ABOUT OSE-127

OSE-127 is a monoclonal immunomodulatory antibody targeting the CD127 receptor, the alpha chain of the interleukin-7 receptor (IL-7R) that induces a powerful antagonist effect on effector T lymphocytes. Interleukin-7 is a cytokine which specifically regulates the tissue migration of human effector T lymphocytes, especially in the gut. The blockage of IL-7R prevents the migration of pathogenic T lymphocytes while preserving regulator T lymphocytes [1, 2] which have a positive impact in autoimmune diseases.

OSE Immunotherapeutics has signed a license option agreement with Servier in December 2016 for the development and commercialization of OSE-127. Under this agreement, OSE Immunotherapeutics is eligible to receive up to €272 M including a €10.25 M upfront payment and additional payments of €30 M upon the exercise of a two-steps option license until Phase 2 completion in ulcerative colitis. Further payments will be linked to the achievement of clinical development and registration in multiple indications, as well as sales milestones with double-digit royalties on sales.

(1) Powell, N. et al. The transcription factor T-bet regulates intestinal inflammation mediated by interleukin-7 receptor+ innate lymphoid cells. Immunity 37, 674–684 (2012)

(2) Yamazaki, M. et al. Mucosal T cells expressing high levels of IL-7 receptor are potential targets for treatment of chronic colitis. J. Immunol. 171, 1556–1563 (2003)

ABOUT OSE IMMUNOTHERAPEUTICS

Our ambition is to become a world leader in activation and regulation immunotherapies:
OSE Immunotherapeutics is a biotechnology company focused on the development of innovative immunotherapies for immune activation and regulation in the fields of immuno-oncology, autoimmune diseases and transplantation. 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.

In immuno-oncology:

- **Tedopi Phase III trial in advanced NSCLC:** after temporary pause of new patient accrual end of June 2017, new recruitment strategy defined in December 2017 to focus the trial on patients who failed a previous treatment with a PD-1/PD-L1 immune checkpoint inhibitor. Enrollment will resume after formal approval of the new recruitment strategy from the Competent Authorities.
  Phase II with Tedopi® in combination with an immune checkpoint inhibitor planned in advanced pancreatic cancer, in collaboration with GERCOR, a cooperative group of clinical research.
- OSE-172 (Effi-DEM), new generation checkpoint inhibitor targeting myeloid cells via the SIRP-α receptor - In preclinical development for several cancer models. Clinical program planned end of 2018.
- **OSE-703 (Effi-3**), cytotoxic monoclonal antibody against the alpha chain of IL-7R - Under a research collaboration with Memorial Sloan Kettering Cancer Center, New York.

In auto-immune diseases and transplantation:

- **FR104, CD28-antagonist in immunotherapy** - Phase 1 trial completed – For the treatment of autoimmune diseases and for use with transplantation - Licensed to Janssen Biotech Inc. to pursue clinical development. Phase 2 planned end of 2018 in rheumatoid arthritis.
- **OSE-127 (Effi-7), interleukin receptor-7 antagonist -** In preclinical development for inflammatory bowel diseases and other autoimmune diseases. Clinical phase planned end of 2018. License option agreement with Servier for the development and commercialization.

The portfolio's blockbuster potential gives OSE Immunotherapeutics the ability to enter global agreements at different stages of development with major pharmaceutical players.
Immunotherapy is a highly promising and growing market. By 2023 Immunotherapy of cancer could represent nearly 60% of treatments against less than 3% at present * and the projected market is estimated at $67 billion in 2018 **. There are more than 80 autoimmune diseases that represent a significant market including major players in the pharmaceutical industry with sales towards $10 billion for the main products. The medical need is largely unmet and requires the provision of new innovative products involved in the regulation of the immune system.

**Citi Research Equity*
***BCC Research*

Click and follow us on Twitter and LinkedIn

Contacts

OSE Immunotherapeutics
Sylvie Détry
Sylvie.detry@ose-immuno.com
+33 143 297 857

U.S. Media: LifeSci Public Relations
Matt Middleman, M.D.
matt@lifescipublicrelations.com
+1 646 627 8384

French Media: FP2COM
Florence Portejoie
fportejoie@fp2com.fr
+33 607 768 283

U.S. and European Investors
Chris Maggos
chris@lifesciadvisors.com
+41 79 367 6254

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 28 April 2017 under the number R.17-038, including the annual financial report for the fiscal year 2016, 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.