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SCIENCE PUBLISHES 2 ARTICLES OF DIRECT RELEVANCE TO NEOVACS CLINICAL RESEARCH

New demonstration of the therapeutic potential of redirecting the immune response by blocking type I interferon

Paris, April 22, 2013 – NEOVACS (Alternext Paris : ALNEV), a leader in active immunotherapies for the treatment of autoimmune diseases, annonces that two articles have just been published in the journal Science that is of great relevance to Neovacs' clinical work on active immunotherapy with IFNα-Kinoid.

The two articles published in Science by Elizabeth Wilson et al[1] et John Teijaro et al[2] present the statistically significant results of two mouse models in which inhibiting type I interferon (mostly α and β) restores immune system functions, controls viral titers in mice infected with lymphocytic choriomeningitis virus (LCMV), and consequently helps fight chronic infections. In the editorial discussing the abovementioned articles, Pamela Odorizzi and John Wherry[3] also suggest that type I interferon blockade could constitute a valid therapeutic pathway to treat other, non-viral, diseases.

Pierre Vandepapelière, Chief Medical Officer of NEOVACS comments: *"These two articles are very interesting since they highlight the positive role of interferon inhibition in restoring the immune system in the case of chronic viral diseases, as well as the link between interferon signature and the success of treatment. We have recently published similar conclusions in Arthritis & Rheumatism for our IFNα-Kinoid immunotherapy in lupus, an autoimmune disease in which Type I interferon plays a negative role."*

NEOVACS is currently developing an anti-interferon α immunotherapy (IFNα-Kinoid) in lupus. The results of a Phase I/II clinical study, demonstrating the positive effect of immunization with IFNα-Kinoid on certain biomarkers of the disease as well as on the expression levels of IFNα-induced and lupus-induced genes were recently publised in *Arthritis and Rheumatism*.

"These two publications, in a journal of such scientific repute, bring new validation to our therapeutic approach to the treatment of lupus. We believe NEOVACS' IFNα-Kinoid is the only treatment able to induce polyclonal antibodies that effectively neutralize all subtypes of interferon-alpha present in lupus. The active immunization pathway also has significant advantages over passive immunization with monoclonal antibodies, especially in chronic conditions (no risk of rejection or resistance, simplified

[1] Elizabeth B. Wilson *et al.,* Blockade of Chronic Type I Interferon Signaling to Control Persistent LCMV Infection (2013)
[2] John R. Teijaro *et al.* Persistent LCMV Infection Is Controlled by Blockade of Type I Interferon Signaling (2013)
[3] Pamela M. Odorizzi and E. John Wherry, An Interferon Paradox, Science 340, 155 (2013);

regimenof administration, lower cost of goods)" concluded Guy-Charles Fanneau de la Horie, CEO of NEOVACS.

Références

Elizabeth B. Wilson *et al.,* Blockade of Chronic Type I Interferon Signaling to Control Persistent LCMV Infection, *Science* 340, 202 (2013)

John R. Teijaro *et al.* Persistent LCMV Infection Is Controlled by Blockade of Type I Interferon Signaling, *Science* 340, 207 (2013);

Pamela M. Odorizzi and E. John Wherry, An Interferon Paradox, Science 340, 155 (2013);

Lauwerys et al, Down-Regulation of Interferon Signature in Systemic Lupus Erythematosus Patients by Active Immunization With Interferonα–Kinoid, *Arthritis & Rheumatism*, Vol. 65, No. 2, February 2013

Alexis Mathian et al. Active immunisation of human interferon α transgenic mice with a human interferon α Kinoid induces antibodies that neutralise interferon α in sera from patients with systemic lupus erythematosus *Annals of Rheumatic Diseases* doi:10.1136/ard.2010.141101

About Neovacs

Neovacs is a biotechnology company focused on an active immunotherapy technology platform (Kinoids) with applications in autoimmune and/or inflammatory diseases. On the basis of the company's proprietary technology for inducing a polyclonal immune response (covered by five patent families that run until at least 2026) Neovacs is focusing its development efforts on two active immunotherapies: TNF-Kinoid is being developed for the treatment of TNF-mediated autoimmune diseases such as rheumatoid arthritis and Crohn's disease, whereas IFNα-Kinoid is being developed for the indication of lupus. The goal of the Kinoid approach is to enable patients to have access to safe treatments with efficacy that is sustained in these life-long diseases.

For more information on Neovacs, visit www.neovacs.fr

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