

NFL BIOSCIENCES: SCIENTIFIC PUBLICATION OF THE STUDY ON THE MECHANISM OF ACTION OF NFL-101 CONDUCTED BY THE CEA IN ACS CHEMICAL NEUROSCIENCE

NFL BIOSCIENCES (Euronext Growth Paris – FR0014003XT0 – ALNFL), a biopharmaceutical company developing botanical drugs for the treatment of addictions, is announcing the publication today, in an international peer-reviewed scientific journal, of a scientific paper on the disruptive new mechanism of action of its smoking cessation drug candidate, NFL-101, highlighted in the study conducted by the CEA’s Pharmacological Neuroimaging team. For the first time in tobacco research, [18F]FDG PET imaging has been used on a mouse model of global tobacco smoke exposure to measure brain changes during withdrawal.

In April 2024, just two months after obtaining the results, the CEA submitted a paper on the findings¹ from the study on the mechanism of action of NFL-101 in ACS Chemical Neuroscience. This is a peer-reviewed monthly international scientific journal that is overseen by the American Chemical Society and publishes papers on the chemistry of neuroscience. ACS Chemical Neuroscience is ranked as one of the top 7% most widely quoted scientific journals (impact factor 5).

The molecular imaging study of the mechanism of action conducted by the French Alternative Energies and Atomic Energy Commission (CEA) demonstrated a disruptive new mechanism resulting from NFL-101, with:

- the ability of NFL-101 to reduce craving, demonstrated by the restoration of brain activity in the region of the brain associated with this craving;
- results indicating that there is communication between the immune system and the central nervous system, a different mode of action than with current smoking cessation drugs, which directly target nicotinic receptors.

The scientific paper entitled “*Brain glucose metabolism as a readout of the CNS impact of cigarette smoke exposure, withdrawal, and the effects of NFL-101, as an immune-based drug candidate for smoking cessation therapy*” is co-signed by scientists from the CEA, CNRS, Inserm, BioMaps, Paris-Saclay University (91401 Orsay), Paris Cité University, INSERM, PARCC, (75015, Paris), the immunology department, APHP, Hôpital Européen Georges Pompidou (HEGP), Hôpital Necker (Paris, France) and by NFL Biosciences. It is available on <https://pubs.acs.org/doi/10.1021/acchemneuro.4c00204> and will also be featured on the cover of the next issue of ACS Chemical Neuroscience.

A sign of recognition from the scientific community, this publication, upstream from the clinical results of the CESTO 2 study, expected for this summer, also further strengthens the project’s appeal for pharmaceutical companies interested in partnerships by detailing the effect of NFL-101 on the central nervous system and specifically the thalamus region, known to play a key role in smoking cessation stages.

NFL-101 is a nicotine-free tobacco extract derived from a subcutaneous desensitization treatment that was initially developed by the Pasteur Institute against tobacco allergies in tobacco factory workers. NFL-101 has already been tested in two clinical trials: a Phase 1 study - CESTO - confirmed its safety and a Phase 2a study - PRECESTO - confirmed its ability to significantly reduce smoking satisfaction in smokers who are not looking to quit. A Phase 2b clinical study - CESTO 2 - is underway at nine clinical centers in France with 318 smokers who wish to quit, with the results expected for July 2024.

¹ See [press release from January 30, 2024](#).

About NFL Biosciences

NFL Biosciences is a biopharmaceutical company based in the Montpellier area which develops botanical drug candidates for the treatment of addictions. NFL Biosciences' ambition is to bring new, natural, safer and more effective therapeutic solutions to the entire world population, including low- and middle-income countries. Its most advanced product, called NFL-101, is a standardized, nicotine free tobacco leaf extract protected by two patent families. NFL Biosciences intends to offer smokers who want to quit a natural, safe, easy-to-administer and personalized alternative. NFL Biosciences is also developing NFL-301, a natural drug candidate for the reduction of alcohol consumption and has a drug development project for the treatment of cannabis use disorder. The shares of NFL Biosciences are listed on Euronext Growth Paris (FR0014003XT0 – ALNFL). Find out more at www.nflbiosciences.com

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