

Development of novel neuroprotective statins to modify Alzheimer's disease

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In recent years a large number of experimental observations have suggested a relationship between cholesterol homeostasis and Alzheimer's disease (AD). Consequently, statins have been evaluated as neuroprotective drugs for the prevention and treatment of AD, showing benefit in several experimental and epidemiological studies. However, these positive effects are generally not in accordance with placebo-controlled randomized clinical trials (CT). One of the reasons for the failure is the selection of the statin for the CT, especially because the commercially available statins were developed for their plasma-cholesterol lowering effects. Neuron BioPharma is developing a discovery program for the identification of statins especially designed for neuroprotection. To this end, the molecules have been rationally designed, studied by *in silico* methods, synthesized in small quantities and evaluated for neuroprotective activity by using the exclusive Neuron BioPharma experimental platform that integrates *in vitro*, cellular and animal models for the study of AD. In this regard, a group of novel neuroprotective statins have been identified and developed, wherein the most advanced derivative (NST0037) will start the First-in-Human phase during this year. The identification and evaluation of a novel statin with a higher neuroprotective profile than the commercial available statins could open a new insight in the AD treatment field, and the use of neuroprotective statins could be considered as a new strategy to modify the disease progression. Moreover, the identification of neuroprotective statins could increase the possibility of success in CT for AD and, consequently, to define a new biomarker scenario to study the AD progression.

Biography

Javier S. Burgos holds a Ph.D. in Biology from the Autonomous University of Madrid (Spain). Currently, he is Chief Scientific Officer of Neuron BioPharma, a company focused in the discovery of molecules against neurodegenerative diseases. He has been guest researcher in a number of renowned institutes in the US, South America and Spain. He has published more than 40 scientific articles and contributed to several book chapters, and is inventor of seven patents. He is reviewer of 26 biomedical journals and member of the editorial board of Journal of Alzheimer's Disease, American Journal of Neurodegenerative Disease, and Journal of Viruses.

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