

Technology Opportunity Bulletin

NH-7211 – A Broad Acting Anti-Alzheimer's Compound

Description:

Our researchers have created novel small chemical compounds capable of disrupting the three key misfolded proteins responsible for Alzheimer's disease (AD) and other CNS disorders. Our lead compound, NH-7211 has been extensively tested in both *in vitro* and *in vivo* models and has shown a unique ability to inhibit $A\beta_{40}/A\beta_{42}$, tau and α -synuclein aggregation. This data suggests that our researchers have created a class of compounds capable of modulating key regulatory domain(s) within these misfolding proteins.

In APP/PS1 transgenic AD mice, NH-7211 rescued long-term potentiation suggesting that it rescues memory deficits caused by $A\beta_{40}$ formation. This key *in vivo* data is supported by cell culture studies showing that inhibition of $A\beta_{40}$ formation significantly reduces hippocampal cell death. In addition, *in vitro* studies showed that NH-7211 effectively reduces $A\beta_{40}$ aggregation in a dose-dependent manner.

An independent contract laboratory company has conducted *in vitro* experiments studying the pharmacokinetic characteristics of NH-7211. Preliminary data suggests that NH-7211 possesses high blood brain barrier penetration and high bioavailability, which is consistent with its high metabolic stability. An initial high dose (300 mg/kg) *in vivo* rat study measuring functional toxicity and mortality was negative.

Status of Development:

Ongoing research includes additional *in vivo* APP/PS1 mouse studies, *in vivo* pharmacokinetic studies and additional medicinal chemistry work is being conducted to develop second and third generation analogues of NH-7211. Patent applications have been filed in various jurisdictions around the World.

Status of Commercialization:

PARTEQ Innovations, the technology transfer office of Queen's University, is seeking industrial partners willing to support ongoing development of the product and/or who are interested in licensing the intellectual property.

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