EnVivo Pharmaceuticals Research Shows EVP-6124 Acts as Acetylcholine Co-Agonist

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WATERTOWN, Mass., Nov. 5, 2010 /PRNewswire/ -- EnVivo Pharmaceuticals today announced it has discovered that EVP-6124, its alpha-7 nicotinic acetylcholine receptor agonist, possesses a novel mechanism not previously seen in the scientific community: it acts as a co-agonist with Acetylcholine (ACh) to enhance cognition.

By acting as a co-agonist and sensitizing the alpha-7 receptor, EVP-6124 makes it possible for smaller amounts of naturally occurring ACh, typically found in individuals with memory disorders such as Alzheimer's, to be required to activate the receptor. In this scenario, EnVivo's research demonstrated that memory deficits can be minimized or entirely reversed by controlling the neuronal channel with EVP-6124 alone or in combination with other Alzheimer's drugs.

"This is groundbreaking research in terms of understanding how the alpha-7 receptor operates in conjunction with EVP-6124," said Kees Been, president and CEO of EnVivo. "The potential, as evidenced in our studies, is significant for how we look at and approach the treatment of Alzheimer's disease."

EnVivo simulated physiologically relevant brain conditions *in vitro* and alpha-7 receptor action was measured in response to ACh in the presence of low EVP-6124 concentrations. At drug concentrations resulting in pro-cognitive effects in *in vivo* studies, EVP-6124 appeared to significantly increase the alpha-7 receptor response to ACh. This suggests that at low concentrations, EVP-6124 acts as a co-agonist and sensitizes the alpha-7 receptor to its natural response to ACh, but does not desensitize the receptor. This co-agonist mechanism of action was supported by testing the combined effect of sub-threshold doses of both EVP-6124 and donepezil (Aricept) on the memory deficit in a rat model. While each drug alone at these very low doses had no effect on reversing the deficit, dosing the two agents together completely restored the
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