

Can gene therapy provide a breakthrough in Alzheimer's disease?

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Therapeutic gene transfer to specific brain regions in animal models of Alzheimer's disease has uncovered multiple potential treatment approaches that deserve to be considered as candidates for clinical applications, according to the article "Gene Therapy Strategies for Alzheimer's Disease: An Overview", published in *Human Gene Therapy*.

The Review is part of a special issue of *Human Gene Therapy* focusing on advances in gene and cell therapy research in France, led by Guest Editors Nathalie Cartier, MD, Director of Research, INSERM, Paris, and President, European Society of Gene and Cell Therapy (ESGCT), and Pierre Cordelier, PhD, Senior Researcher, INSERM, Toulouse, France, and President, French Society of Cell and Gene Therapy (SFTCG). The special issue will be distributed at the SFTCG meeting, March 9-11, Marseilles, France.

Sandro Alves, Romain Fol, and Nathalie Cartier, INSERM, Université Paris-Sud, Université Paris-

Saclay, Orsay, France, present a comprehensive overview of the varied [gene therapy](#) approaches in development to target the neuropathological changes associated with Alzheimer's disease. These include strategies intended to act directly on the metabolism of [amyloid precursor protein](#) (implicated in amyloid plaque development), to boost neuroprotection, increase levels of autophagy-related proteins (involved in protein turnover and degradation of long-lived proteins), intervene in inflammatory pathways, regulate genes related to lipid metabolism, and target apolipoprotein E (APOE), the major susceptibility gene for Alzheimer's disease.

"Alzheimer's disease is the great challenge of 21st century medicine, looming as an enormous burden to healthcare and society as a whole as the Baby Boom generation ages," says Editor-in-Chief Terence R. Flotte, MD, Celia and Isaac Haidak Professor of Medical Education and Dean, Provost, and Executive Deputy Chancellor, University of Massachusetts Medical School, Worcester, MA. "Gene therapy has the potential to provide the breakthrough that is needed at this critical time."

Provided by Mary Ann Liebert, Inc

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