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(54) Title: APOLIPOPROTEIN E/GROWTH FACTOR COMPLEXES AND METHODS OF USE

(57) Abstract

Provided herein are compositions comprising complexes of apolipoprotein E and nerve growth factor, neurotrophin 4 or Υ–interferon. The apolipoprotein E can be any isoform, but is preferably apolipoprotein E3. Also preferred are covalent complexes or apolipoprotein E and nerve growth factor, Υ–interferon, or neurotrophin 4. Further provided are methods of enhancing the survival of neural cells by administering a composition comprising a complex of apolipoprotein E and nerve growth factor or neurotrophin 4. Also disclosed are methods of administering compositions comprising complexes of apolipoprotein E and Υ–interferon to protect against virus infection, treat diabetes mellitus, treat bone degradation, treat blood trauma, and produce anti–tumor effects. The claimed methods can be carried out both *in vitro* and *in vivo*.