Abstract:
The cognitive disturbances of Alzheimer’s disease are best correlated with the loss of brain synapses. A treatment that decreased this loss – by suppressing the neurotoxicity that produced it, or by increasing the formation of new synapses – might improve cognition. Brain synapses form continuously, at rates known to be related to neuronal firing frequencies. We observe that synaptic membrane and, ultimately synapse formation can also be enhanced by providing the brain with supplemental amounts of three key circulating nutrients (uridine; docosahexaenonic acid; choline) that are precursors for the phosphatides in the synaptic membranes. (These membranes are identifiable from their characteristic pre- and post-synaptic proteins, and from the outgrowth of neurites and of dendritic spines.) Animals receiving these nutrients orally also exhibit elevated cognitive test scores and brain neurotransmitter release.

A randomized, controlled, double-blind, parallel group, multi-centre, multicountry clinical trial (Principal Investigator: Prof. Phillip Scheltens, VUMS, Amsterdam) has now demonstrated that giving these nutrients (as “SouvenaidTM) to patients with mild Alzheimer’s Disease (MMSE = 20-26) also improves their test scores. 212 patients received either the (“SouvenaidTM”) or its placebo daily for 12 weeks. Significant improvement was noted among patients with mild or very mild disease in a delayed verbal memory task (derived from the Wechsler Memory Scale), and in the Activities of Daily Living Scale. Patients with a higher baseline ADAS-cog score also exhibited a greater effect of the intervention. The Souvenaid was well tolerated (compliance was 94%) and safe. This proof-of-concept study demonstrates that SouvenaidTM, which provides the nutrients needed to increase brain synapse formation, improves memory in mild and very mild AD.