Antibodies Against Prion Proteins for Treatment of Alzheimer’s Disease

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Description:

- **Background:** Cellular prion protein PrPC acts as a high affinity receptor for Aβ-oligomers and is required for Aβ-oligomer-induced synaptic dysfunction in vitro and in vivo. Signal transduction downstream of Aβo/PrPC involves mGluR5, Fyn and Pyk2.
- In an AD Tg mouse model an infusion of the anti-PrPC mAb 6D11 produces a significant behavioral rescue in the setting of advanced disease, even with a relatively short treatment regimen (Fig.1).
- The proposed mechanism of action is blocking of the binding between Aβ oligomers and PrPC, resulting in an amelioration of synaptic loss (Fig.2).
- **Indications:** Alzheimer’s Disease; other neurodegenerative disorders.

Fig. 1. Radial arm maze cognitive testing. The number of errors is plotted versus the day of testing.

Fig. 2. Synaptophysin immunoreactive presynaptic terminals in the molecular layer of the dentate gyrus of the hippocampus.

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Publications:


PI: Stephen Strittmatter, M.D., Ph.D.

Licensing Contact: John Puziss
john.puziss@yale.edu