Antibodies Against Prion Proteins for Treatment of Alzheimer’s Disease

OCR Number: OCR 4677

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 Aβ/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.

**Published/Issued Patents:** [U.S. Patent No. 9,217,036](#)

**Publications:**


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*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.*