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 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 regiment (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.

---

**Published/Issued Patents:** [U.S. Patent No. 9,217,036](https://www.yale.edu)

**Publications:**


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

**Licensing Contact:** John Puziss

john.puziss@yale.edu