Supplementary Materials

Identification of Small Molecule Inhibitors of Tau Aggregation by Targeting Monomeric Tau As a Potential Therapeutic Approach for Tauopathies

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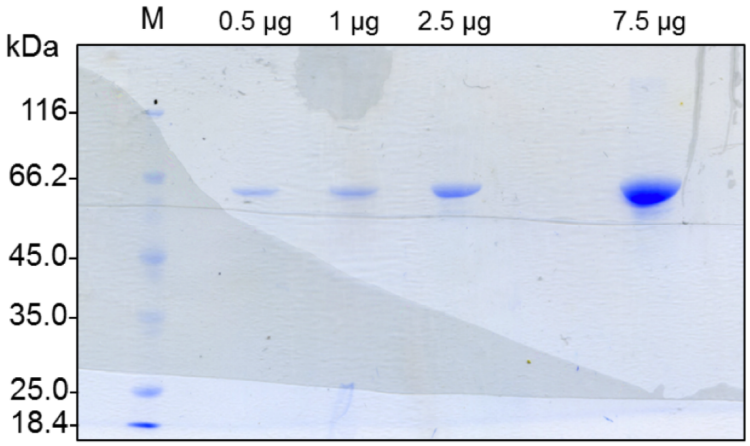

Fig. (S1). HTau^{2N4R}wt stock preparation, used as starting material fort the screen, showing that the protein was monomeric. 10% SDS-PAGE of hTau^{2N4R}wt stock prepared in PBS buffer at pH 7.4 with 1 mM DTT at 1 mg/ml (22 µM) concentration. hTau^{2N4R}wt appears as a single band by Coomassie Blue staining. The purity of the protein is > 95%.

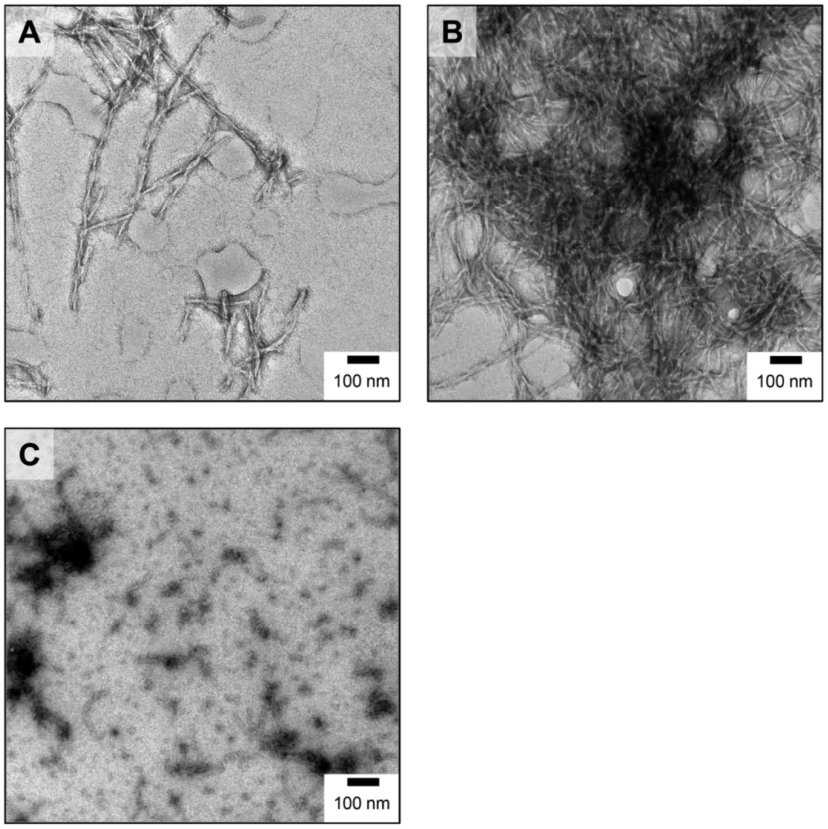

Fig. (S2). Electron micrographs of Tau^{4RD}ΔK280 fibrils after 10 days of incubation. **A** and **B** – without compound; **C** – in the presence of anti-aggregation compound (10 µM Tau protein + 60 µM bb14[34] after 12 hours incubation at 37 °C).

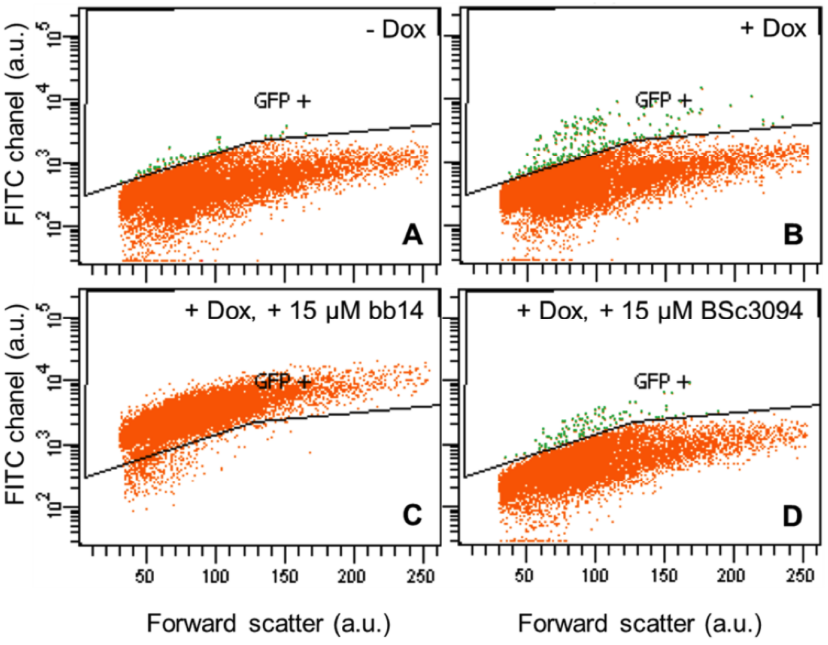

Fig. (S3). Comparison of tau expressing N2a cells when treated with anti-aggregation compounds. N2a cells expressing the tau construct Tau^{4RD}ΔK280 were incubated with the rhodanine derivative bb14 [34] and the phenyl-thiazolyl-hydrazide derivative BSc3094 [35] (15 µM concentration in the medium) for 4 days and the amount of ThS-positive cells was analyzed by FACS. The induced cells without compounds shows an amount of ThS-positive cells (located in the "GFP+"-field) which decreases in the presence of BSc3094 (compare B and D). In the samples treated with bb14 we observed a general upward shift of the whole cell population in the FITC channel. This observation suggests an artificial fluorescence effect of this compound in our cellular system. Because of this we used only the BSc3094 compound as reference for our cellular assays (FACS and MTT).