*Supplementary Materials*

A combined cell-worm approach to search for compounds counteracting the toxicity of tau oligomers *in vivo*

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**Figure S1. Tau P301L expression** **did not affect cell viability.** HEK T-Rex cells were treated with 1.0 µg/mL doxycycline to induce the expression of human tau P301L(Induced) or with the same volume of 10 mM PBS, pH 7.4 (Not-induced). Cell viability was recorded 1, 3 and 5 days after treatment,with (**a**) MTT, (**b**) LDH and (**c**) Alamar blue assays. Data are expressed as values normalized on the mean of Not-induced cells from three technical replicates of three independent experiments.



**Figure S2. Western blot of cell lysates prior to immunoprecipitation and used for the input**. Cell lysates were prepared from HEK T-REx cells induced (I) or Not-induced (NI) for 5 days to express tau P301L. Equal amounts of proteins (30µg) were loaded in each lane of gel and immunoblotted withanti-tau antibody (DAKO) or anti-vinculin antibody.



**Figure S3. Effect of Doxy on tau expression.** Representative Western blot of (**a**) total tau and phosphorylated tau (P-Tau) in lysates of HEK T-REx cells induced or not-induced (NI) for 5 days to express TauP301L. Cell lysates of Induced cells (30 µg) were incubated for 2 h with 50 μM Doxy (I+ DOXY) or the same volume of 10 mM PBS, pH 7.4 (I). Equal amounts of proteins (30 µg) were loaded in each gel lane and immunoblotted with **(a)** anti-tau antibody (DAKO), anti P-tau (198-199-202-205) antibody or anti-vinculin antibody. **(b**) Total tau and **(c)** P-tau quantification expressed as the mean volume of the immunoreactive band/vinculin. Data are mean ± SD (N=3).