

Supporting Information

for

Copper chaperone blocks amyloid formation via ternary complex

by

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Content:

Figures S1-S4

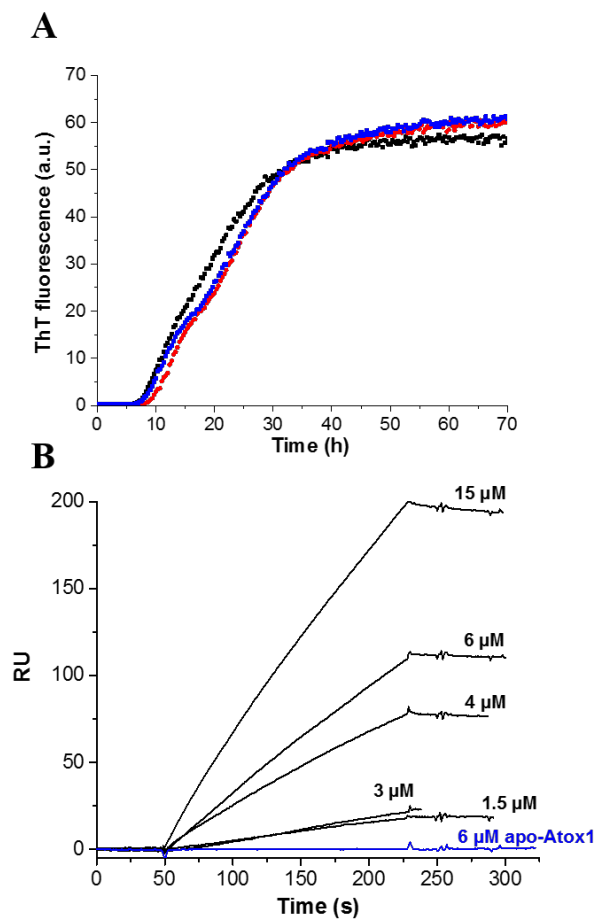


Figure S1. A. ThT assay probing a possible effect of AgNO_3 on α S amyloid formation; 70 μ M α S alone (black), α S + 70 μ M AgNO_3 (blue), α S + 210 μ M AgNO_3 (red). B. SPR-detected binding curves measured after injecting (at 50 s) various concentrations of Cu-Atox1 (black; concentrations given in figure) and upon injecting a similar concentration of apo-Atox1 (blue) onto an α S-coated chip surface (see Materials for experimental details).

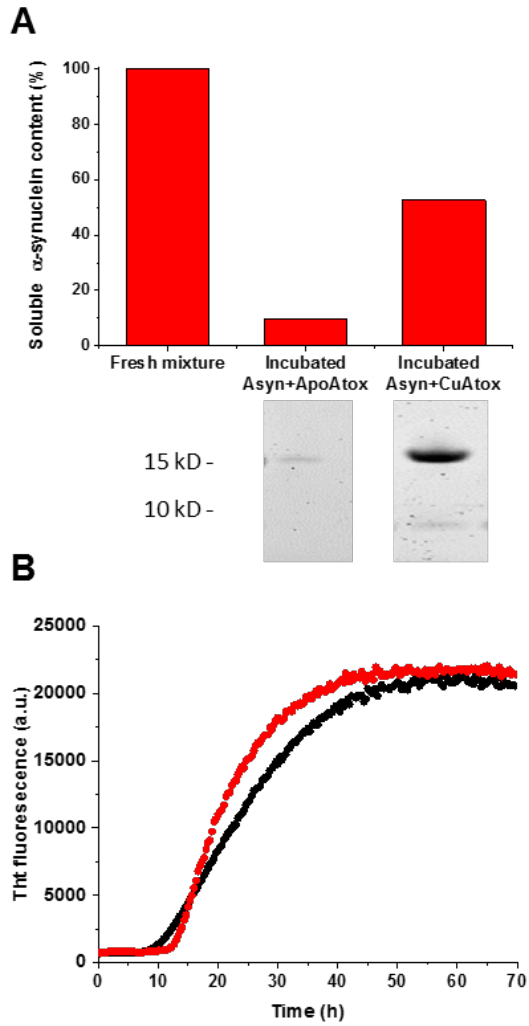


Figure S2. A. Quantification of soluble α S content after aggregation with apo- and Cu-Atox1 using the α S peak intensity measured in a fresh α S sample as 100 %. Under the graph, SDS-PAGE analysis of the corresponding fractions is shown (15 kDa corresponds to α S). B. ThT monitored aggregation reaction of 70 μ M α S alone (black) and in the presence equimolar Cu-loaded CCS (red).

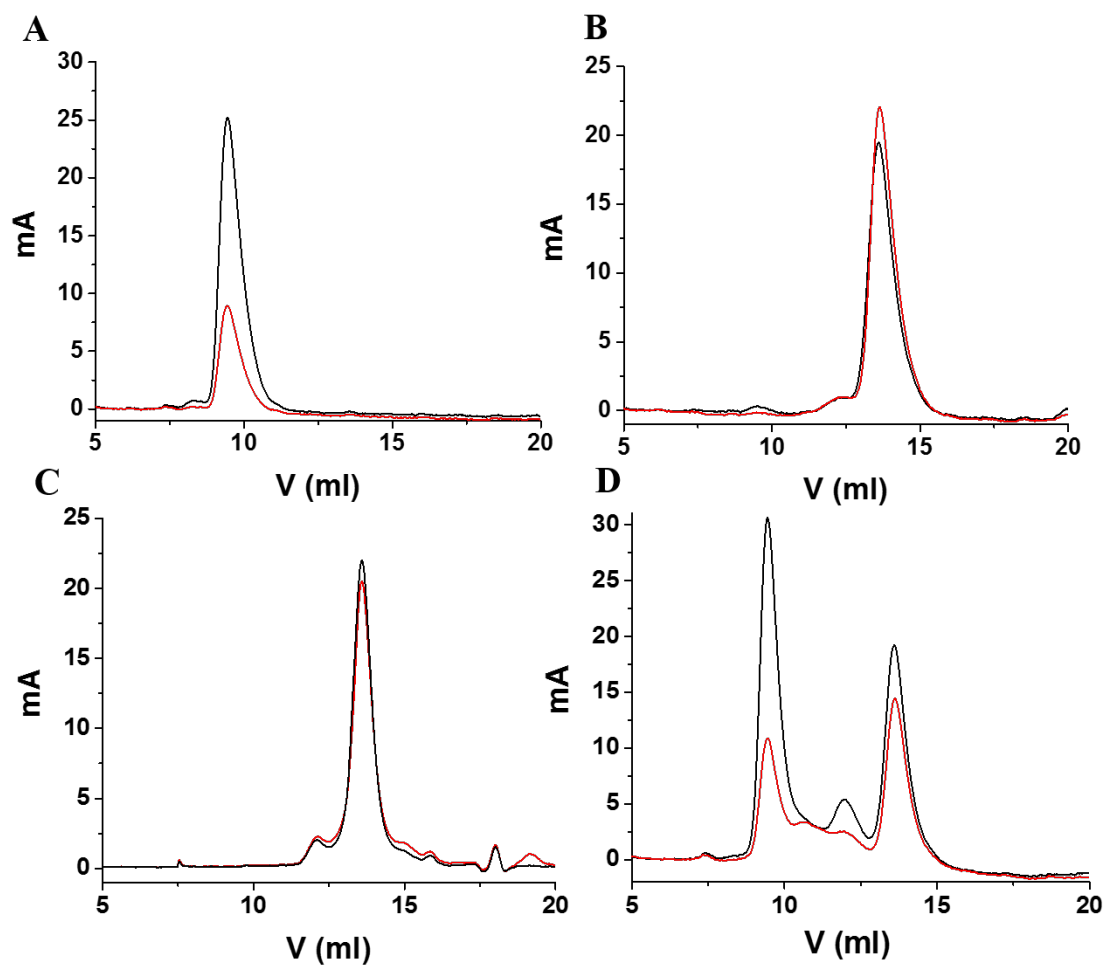


Figure S3. SEC traces for α S alone (A), Cu-Atox1 alone (B), mostly apo-Atox1 (25 % Cu-form and 75 % apo-form according to ICP-MS analysis) alone (C); and a 1:1 mixture of Cu-Atox1 and α S (D); black, 280 nm absorbance; red, 254 nm absorbance. Note that red curve is higher than black curve for the holo-Atox1 peak in B (due to ligand to metal charge transfer of Cys-Cu bonds absorbing around 254 nm), but red curve is lower than black curve for apo-Atox1 in C (and D); thus, in D, the 254/280 nm ratio indicates that copper has been removed from Cu-Atox1. (Because α S does not have Cys residues that can coordinate Cu, the same spectral analysis cannot be made for the α S peak; here we instead turned to ICP-MS, Figure 3B.)

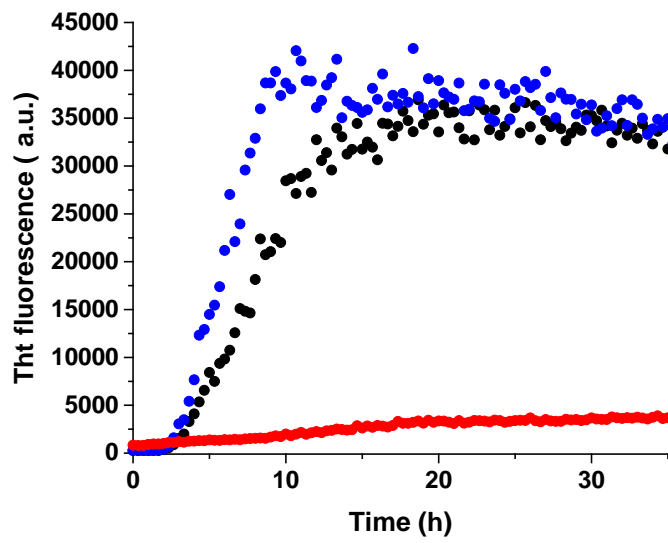


Figure S4. ThT-monitored aggregation for for 50 μ M truncated α S (lacking C-terminus) alone (black), in the presence equimolar apo-Atox1 (blue), and with equimolar Cu-Atox1 (red).