Electronic Supplementary Material (ESI) for Integrative Biology.


# Supporting Information

**Figure S1.** Percentage of soluble A$\beta_{40}$ (40μM) in the solution without or with $Zn^{2+}$ or $Cu^{2+}$ ions in the absence and presence of chelators after incubation at 37˚C and pH 7.4 for 24 h in disaggregation assay ([A$\beta_{40}$] : [$Cu^{2+}$]/ [$Zn^{2+}$]: [L1]/ [L2] = 1 : 2 : 4]).

**Figure S2.** ThT fluorescence spectra of A$\beta_{40}$ (20 μM) solutions in the absence and prescence of $Zn^{2+}$ (A) or $Cu^{2+}$ (B) and L1 or L2 after incubation at 37˚C for 24 h in disaggregation assay. ([A$\beta_{40}$] : [$Cu^{2+}$]/ [$Zn^{2+}$]: [L1]/ [L2] = 1 : 2 : 4]).

**Figure S3.** ThT fluorescence spectra of A$\beta_{40}$ (20 μM) solutions in the presence of L1 or L2 after incubation at 37˚C for 24 h(A), 48 h(B), 72 h(C). ([A$\beta_{40}$] : [L1] /[L2]/[EDTA] = 1 : 4]).

**Figure S4.** Cell viability (%) of A$\beta_{40}$ in present of L1 or L2 toward SH-SY5Y cells tested by the MTT assay ([A$\beta_{40}$]= 10 μM; [A$\beta_{40}$] : [L1] /[L2]/[EDTA] = 1 : 4).

**Figure S5.** Cell viability (%) of metal ions A$\beta_{40}$ in the absence or presence of chelaors toward SH-SY5Y cells tested by the MTT assay. ([A$\beta_{40}$]= 10 μM; [A$\beta_{40}$] : [L1] /[L2]/ [EDTA] = 1 : 4).

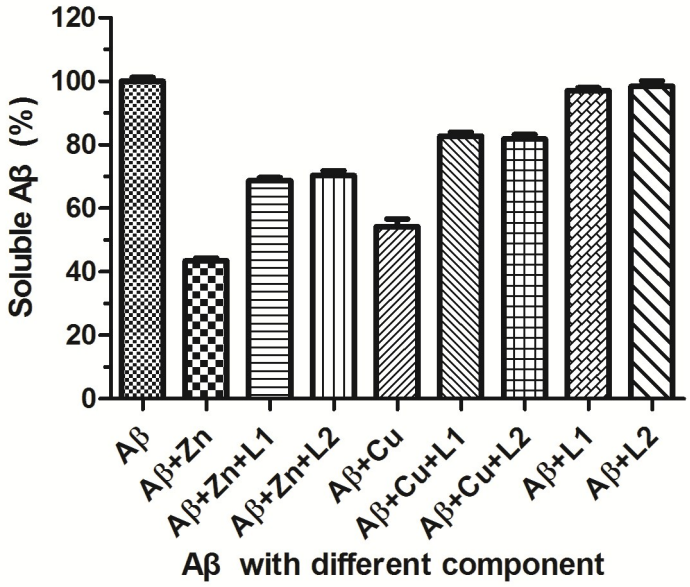
120
100
80
60
40
20
0
Soluble Aβ (%)
Aβ
Aβ+Zn
Aβ+Zn+L1
Aβ+Zn+L2
Aβ+Cu
Aβ+Cu+L1
Aβ+Cu+L2
Aβ+L1
Aβ+L2
Aβ with different component

**Figure. S1**

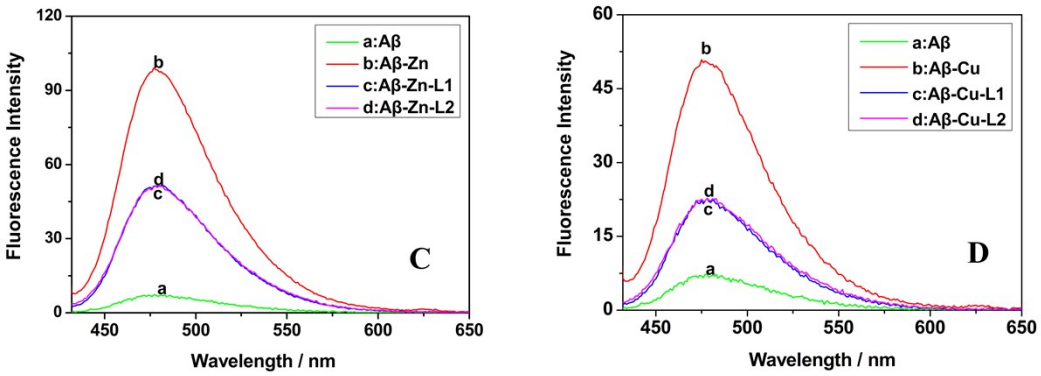
Fluorescence Intensity
Wavelength / nm
a:Aβ
b:Aβ-Zn
c:Aβ-Zn-L1
d:Aβ-Zn-L2
C
a:Aβ
b:Aβ-Cu
c:Aβ-Cu-L1
d:Aβ-Cu-L2
D

**Figure. S2**

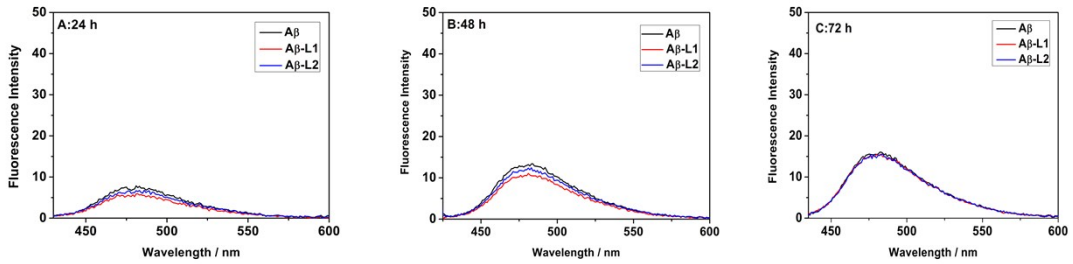
A:24 h
B:48 h
C:72 h
Aβ
Aβ-L1
Aβ-L2
Fluorescence Intensity
Wavelength / nm
0
10
20
30
40
50
450
500
550
600

**Figure. S3**

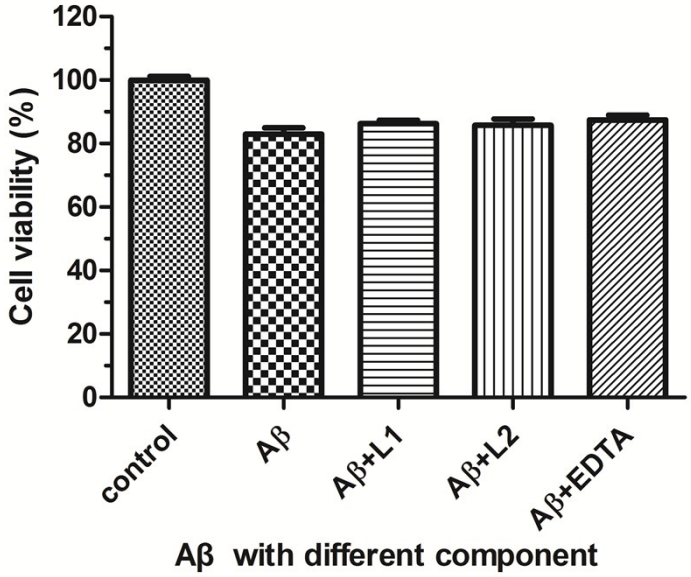
120
100
80
60
40
20
0
Cell viability (%)
control
Aβ
Aβ+L1
Aβ+L2
Aβ+EDTA
Aβ with different component

**Figure. S4**

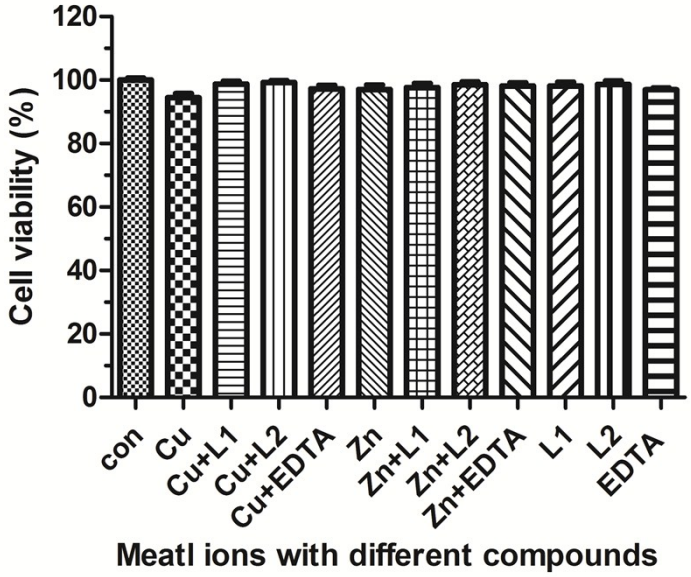
120
100
80
60
40
20
0
Cell viability (%)
con
Cu
Cu+L1
Cu+L2
Cu+EDTA
Zn
Zn+L1
Zn+L2
Zn+EDTA
L1
L2
EDTA
Meatl ions with different compounds

**Figure. S5**