

## Supplementary Figure 1

**Fig. 1. A**

Hsp72	DnaJB1	Hsp72 ΔEEVD
68 % ●	WT ○	19 %
72 % ▲	E50A △	65 %
79 % ▼	K73A ▽	55 %
15 % ■	— □	17 %

**Fig. 2. A**

DnaJA2		
79 % ●	+	] Hsp72
21 % ■	—	
28 % ○	+	] Hsp72
24 % □	—	

**B**

J-protein	Hsp70	
93 % ●	DnaJA2	] Ssa1
96 % ▲	Ydj1	
13 % ■	—	] Ssa1
32 % ○	DnaJA2	
74 % △	Ydj1	] Hsp70
14 % □	—	] ΔEEVD

**C**

76 % ●	DnaJB1	] Hsp72
12 % ▲	—	
12 % ○	DnaJB1	] Hsp72
		] ΔEEVD

  

113 % ●	DnaJA2	] Hsp72
6 % ▲	—	] Hsp72
96 % ○	DnaJA2	] Hsp72
		] ΔEEVD

**Fig. 3.**

Hsp72	DnaJA2	Hsp72 ΔEEVD
78 % ●	WT ○	18 %
100 % ▲	Zn <sub>Ydj1</sub> A2 △	77 %
73 % ▼	Zn <sub>Xdj1</sub> A2 ▽	63 %
17 % ■	— □	17 %

**Fig. 4. B**

Hsp72	DnaJA2	Hsp72 ΔEEVD
80 % ●	WT ○	22 %
86 % ▲	A145E △	67 %
31 % ▼	S153K ▽	30 %
73 % ◆	A161S ◇	29 %
88 % ●	A175G ○	51 %
86 % ★	S187D ☆	72 %
89 % ■	E198P □	33 %
24 % +	— ⊕	24 %

**E**

Hsp72	DnaJA2	Hsp72 ΔEEVD
82 % ●	WT ○	20 %
98 % ▲	K152A △	80 %
102 % ▼	K199A ▽	79 %
105 % ◆	K203A ◇	62 %
20 % ■	— □	21 %

### Supplementary Figure 1.

The percent refolding at the final time point of the assays presented in Figures 1-4 of the main text are given. 150 minutes for all assays, except Figure 2B (60 min) and Fig 2C (80 min).