Characterization of the relationship between the chaperone and lipid-binding functions of the 70-kDa heat-shock protein, HspA1A

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Supplementary Information

Supplementary Table 1

Supplementary Fig. 1

Supplementary Table 1 Statistical analyses of the experiments shown in Figures 3 and 4.

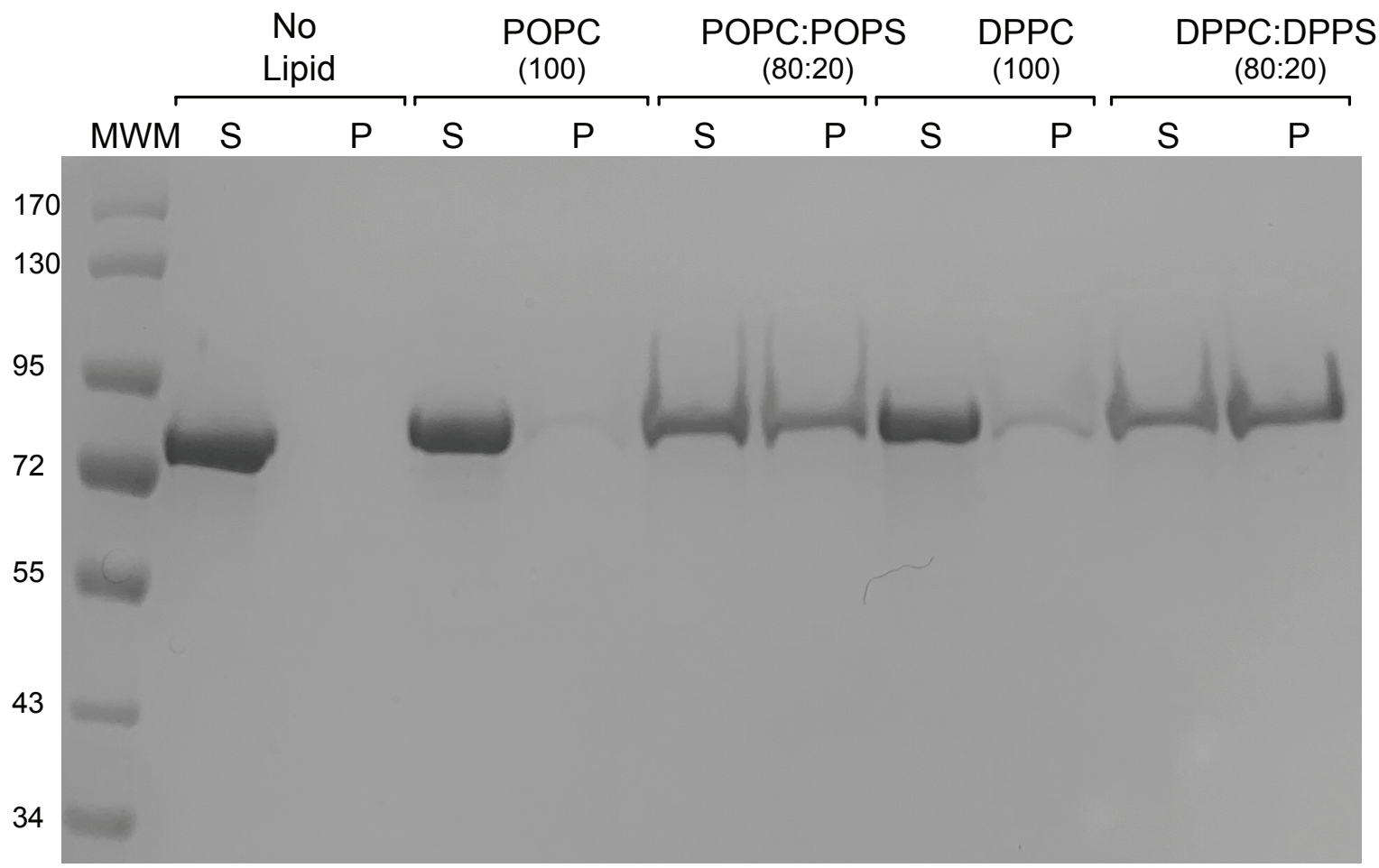
ATPase Rate (Fig. 3)

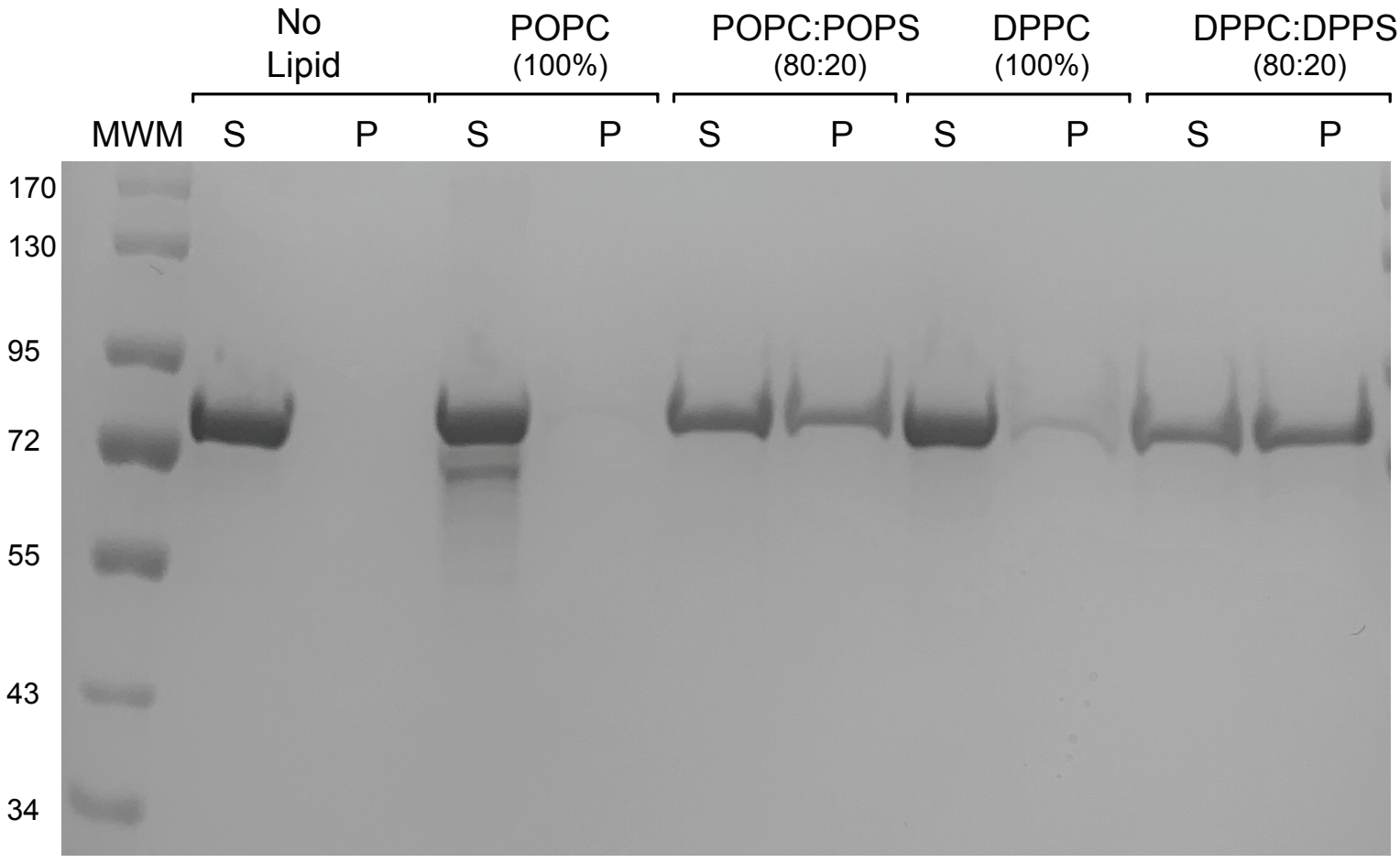
	p-values		
Pairs	**0-30**	**0-60**	**0-90**
HspA1A-HspA1A+POPC	0.005857	0.008295	0.001005
HspA1A-HspA1A+POPS	0.013538	0.001005	0.001005
HspA1A+POPC-HspA1A+POPS	0.702006	0.107585	0.521428
HspA1A-HspA1A+DPPC	0.001005	0.001005	0.001005
HspA1A-HspA1A+DPPS	0.001005	0.001005	0.001005
HspA1A+DPPC-HspA1A+DPPS	0.36817	0.282109	0.899995

Refolding Rate (Fig. 4)

Pairs	**p-value**
HspA1A-HspA1A+POPC	0.69703
HspA1A-HspA1A+POPS	0.00548
HspA1A-HspA1A+DPPC	0.24448
HspA1A-HspA1A+DPPS	0.00101
HspA1A+POPC-HspA1A+POPS	0.00101
HspA1A+POPS-HspA1A+DPPS	0.67417
HspA1A+DPPC-HspA1A+DPPS	0.02169

Supplementary Fig. 1 HspA1A binds to liposomes containing phosphatidylserine. A single concentration of liposomes (1 mM total lipid) composed of different lipid mixtures in specified molar ratio (see figure) was incubated with 1 μM of protein. After centrifugation, the extent of lipid-protein binding was determined by comparing the amount of protein that remained in the supernatant to the amount of protein that was pelleted. Representative SDS-PAGE gel electrophoresis of the supernatant (S) and pellet (P) fractions of HspA1A (two separate batches) with liposomes composed of different PC and PS lipid species.


No Lipid
POPC (100)
POPC:POPS (80:20)
DPPC (100)
DPPC:DPPS (80:20)
MWM
S
P
170
130
95
72
55
43
34


No Lipid
POPC (100%)
POPC:POPS (80:20)
DPPC (100%)
DPPC:DPPS (80:20)
MWM
S
P
170
130
95
72
55
43
34