

**Nucleoplasmin-like domain of FKBP39 from *Drosophila melanogaster* forms a tetramer with partly disordered tentacle-like C-terminal segments**

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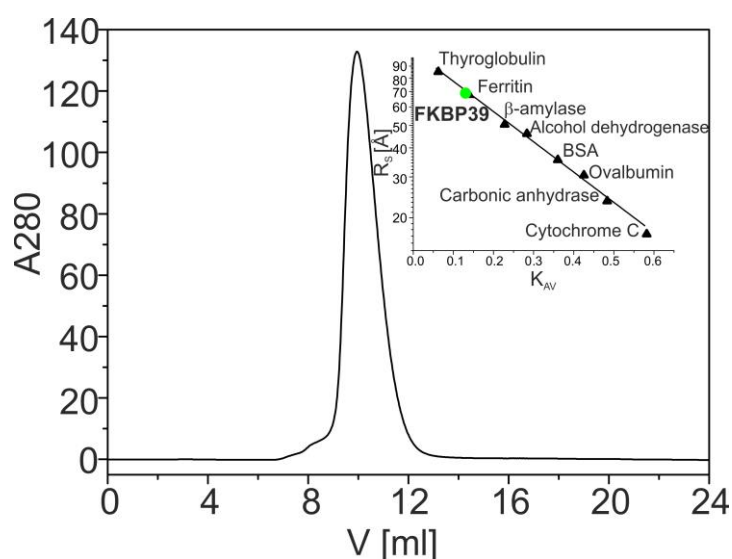
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The authors wish it to be known that, in their opinion, the first 2 authors should be regarded as joint

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## Analytical size-exclusion chromatography (SEC)



**Figure S1. Analytical SEC of FKBP39.** The protein was chromatographed on a Superdex 200 10/300 GL column equilibrated with buffer C at room temperature and a flow rate of 0.5 ml/min; an injection volume of 0.1 ml was used, and the protein concentration was 1 mg/ml. The inset shows the calibration curve determined using standard proteins (black triangles). The grey dot corresponds to FKBP39.

During SEC under native conditions, FKBP39 was eluted from the column with an elution volume ( $V_e$ ) corresponding to a surprisingly large Stokes radius ( $R_s$ ) of 69 Å, which falls near to the  $R_s$  value of the relatively large globular protein ferritin (450 kDa) (inset). The theoretical  $R_s$  for a globular protein with a Mm similar to that of FKBP39 is 27.8 Å, indicating that the experimental  $R_s$  is 2.5 times larger than the theoretical value. Similarly, experimental and theoretical values of the molecular volume and density were also substantially different (Table S1). The determined apparent Mm of 419±5 kDa was more than 10 times larger than the value determined by ESI MS (40.696 kDa).

## Summary of hydrodynamic properties determined by analytical SEC

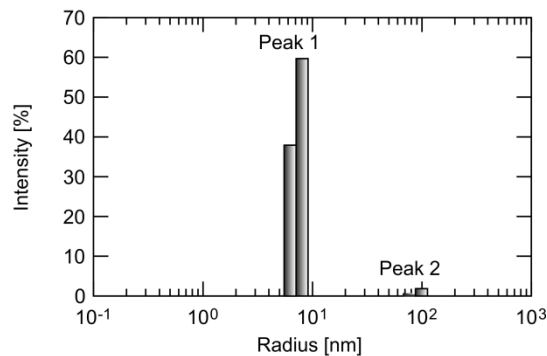
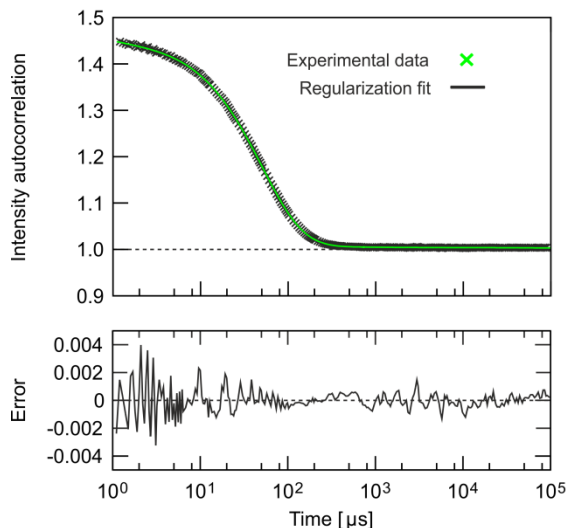
**Table S1. Hydrodynamic properties of FKBP39.**

Mm [kDa]	$R_s$ [Å]		$V_s \times 10^3$ [Å <sup>3</sup> ]		$\rho$ [Da/Å <sup>3</sup> ]	
	Theor. <sup>a</sup>	Exp.	Theor. <sup>b</sup>	Exp. <sup>c</sup>	Theor. <sup>b</sup>	Exp. <sup>c</sup>
40.695	27.8	69.4±0.3	90.2	1400.1	0.45	0.03

<sup>a</sup>Determined from the equation:  $\log (R_s^N) = (0.819 \pm 0.025) + (0.388 \pm 0.012) \times \log (\text{Mm})$  for native globular proteins. <sup>b</sup>Calculated using theoretical  $R_s$ . <sup>c</sup>Calculated using experimentally determined  $R_s$ .

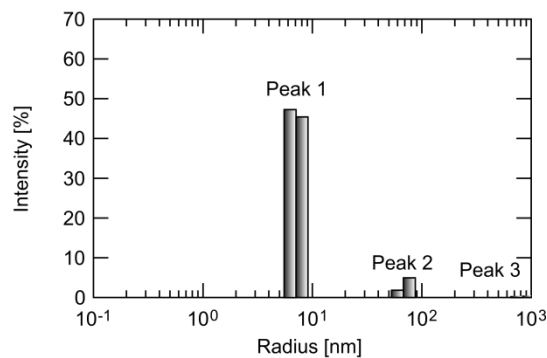
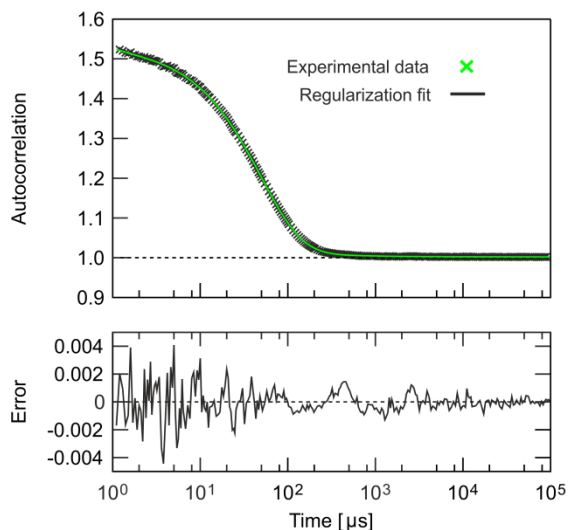
# Dynamic Light Scattering (DLS)

FKBP39 at 1.0 mg/ml



	Radius	%Pd	%Intensity	%Mass
Peak 1:	7.35 nm	11.8	97.62	99.98
Peak 2:	94.1 nm	9.7	2.38	0.02

FKBP39 at 0.25 mg/ml



	Radius	%Pd	%Intensity	%Mass
Peak 1:	7.13 nm	12.5	92.68	99.91
Peak 2:	72.4 nm	10.5	6.78	0.03
Peak 3:	863 nm	12.0	0.54	0.06

**Figure S2. Particle size analysis by DLS.**  $R_s$  and %Pd were calculated based on regularization fit. %Intensity corresponds to percent of signal intensity assigned to different peaks whereas %Mass to percent of total sample mass assigned to different peaks calculated using Rayleigh Spheres model.