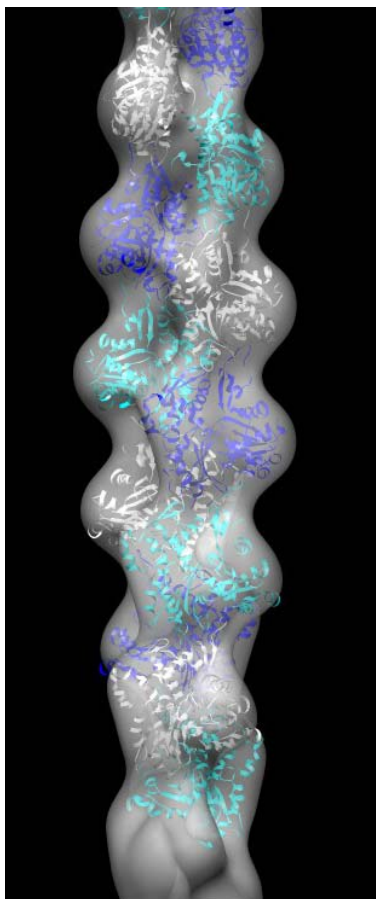
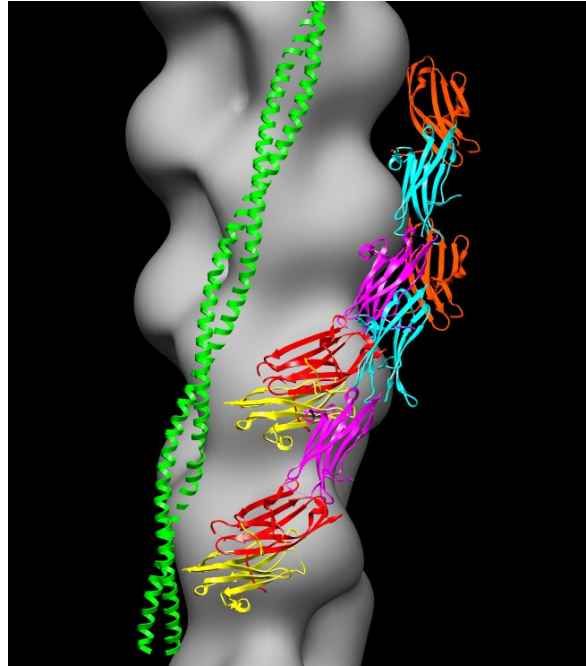


## Supplementary Material

Mun et al., Electron Microscopy and 3D Reconstruction of F-actin Decorated with Cardiac Myosin-binding Protein C (cMyBP-C)



**Supplementary Figure S1.** F-actin reconstruction (gray surface rendering) shows excellent fit with F-actin atomic model<sup>1</sup> (ribbon depiction), validating the fitting procedure used for the cMyBP-C-decorated actin reconstructions in this paper. Individual actin monomers are colored white, blue or cyan.



**Supplementary Figure S2.** Best-fit position of two C0C3 fragments in C0C3 reconstruction (Fig. 6d), superimposed on F-actin reconstruction and shown in relation to tropomyosin in the myosin-induced (“open”) position<sup>2</sup>. There appears to be no possibility of any steric clash with tropomyosin in this position. Compare with tropomyosin in closed and blocked positions in Fig. 7.

1. Oda, T., Iwasa, M., Aihara, T., Maeda, Y. & Narita, A. (2009). The nature of the globular-to fibrous-actin transition. *Nature* **457**, 441-445.
2. Poole, K. J., Lorenz, M., Evans, G., Rosenbaum, G., Pirani, A., Craig, R., Tobacman, L. S., Lehman, W. & Holmes, K. C. (2006). A comparison of muscle thin filament models obtained from electron microscopy reconstructions and low-angle X-ray fibre diagrams from non-overlap muscle. *J. Struct. Biol.* **155**, 273-284.

## Movie legends

**Supplementary Movie 1.** Movie of Fig. 6d showing in 3D the fitting of two C0C3 fragments and atomic model of F-actin to the C0C3-decorated actin reconstruction.

**Supplementary Movie 2.** Movie of Fig. 7a showing in 3D the best-fit position of two C0C3 fragments in the C0C3 reconstruction (Fig. 6d) superimposed on the F-actin reconstruction fitted with F-actin atomic model.

**Supplementary Movie 3.** Movie of Fig. 7b showing in 3D the best-fit position of two C0C3 fragments in the C0C3 reconstruction (Fig. 6d) superimposed on the F-actin reconstruction, with tropomyosin added in the closed position.

**Supplementary Movie 4.** Movie of Fig. 7c showing in 3D the best-fit position of two C0C3 fragments in the C0C3 reconstruction (Fig. 6d) superimposed on the F-actin reconstruction, with tropomyosin added in the blocked position.

**Supplementary Movie 5.** Movie of Fig. 7d showing in 3D the best-fit position of two C0C3 fragments in the C0C3 reconstruction (Fig. 6d) superimposed on the F-actin reconstruction, with S1 added in the rigor position.