Supplemental Materials

Molecular Biology of the Cell

Oda et al.

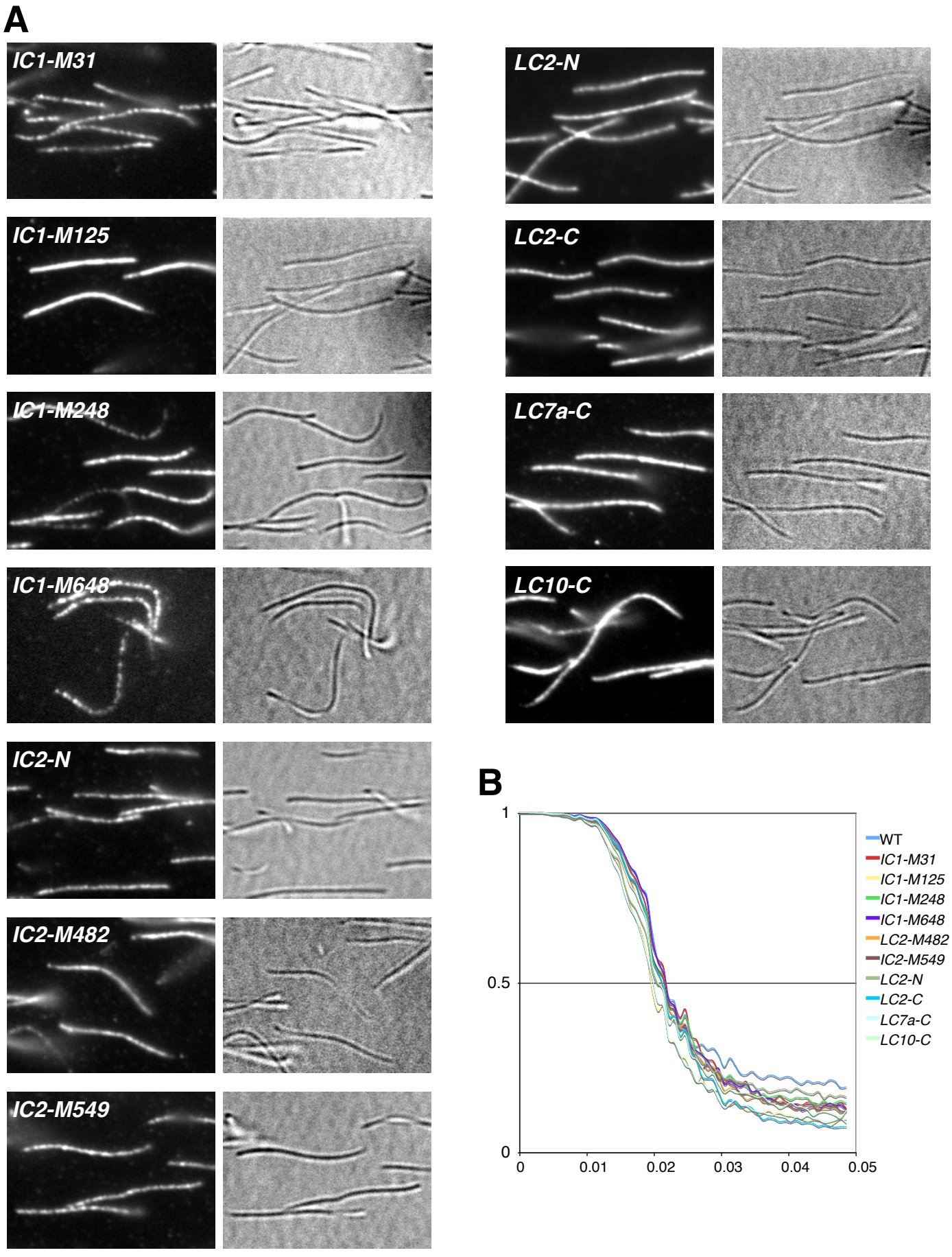
A
IC1-M31
IC1-M125
IC1-M248
IC1-M648
IC2-N
IC2-M482
IC2-M549
LC2-N
LC2-C
LC7a-C
LC10-C
B
1
0.5
0
0
0.01
0.02
0.03
0.04
0.05
WT
IC1-M31
IC1-M125
IC1-M248
IC1-M648
LC2-M482
IC2-M549
LC2-N
LC2-C
LC7a-C
LC10-C

Figure S1

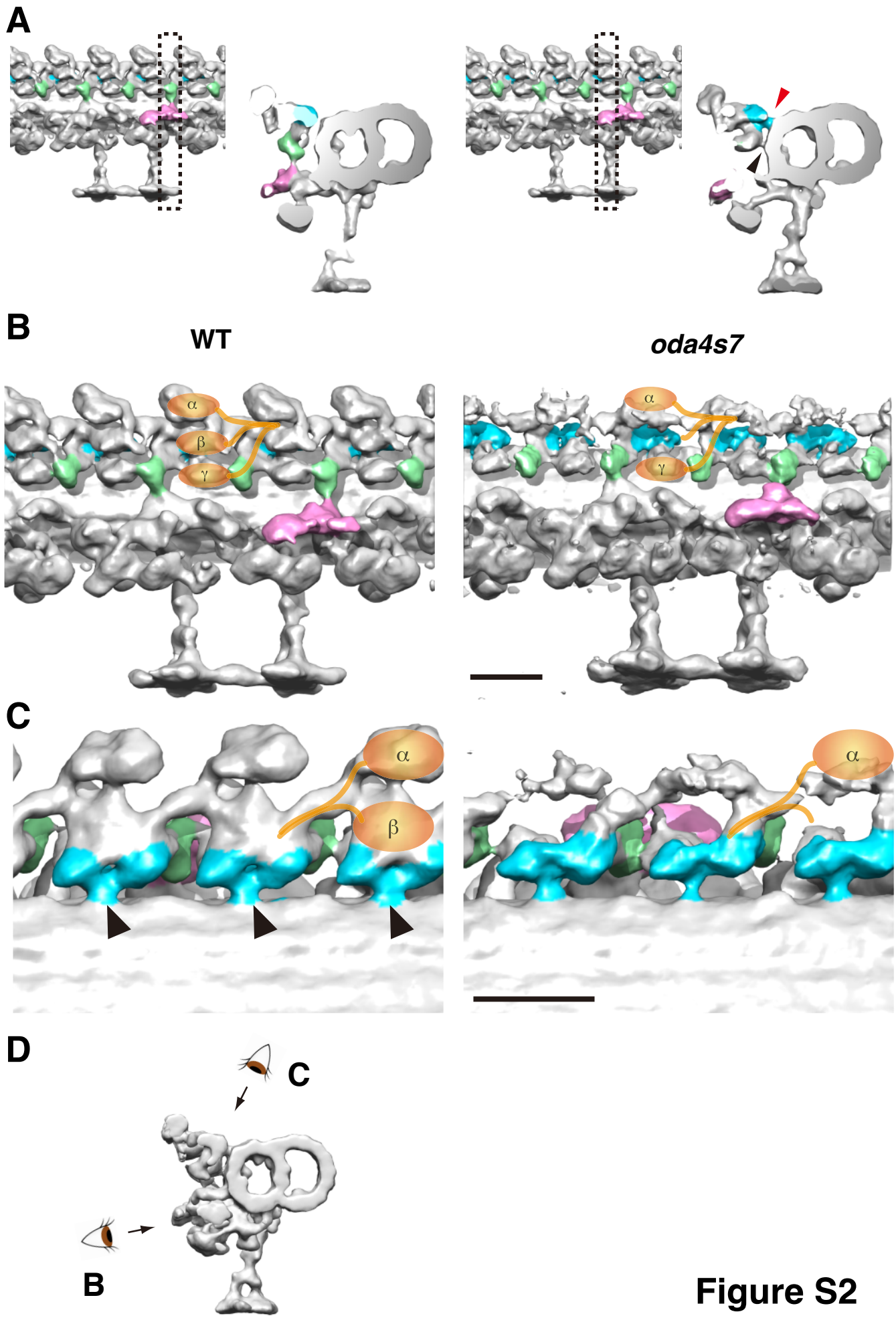

Figure S2

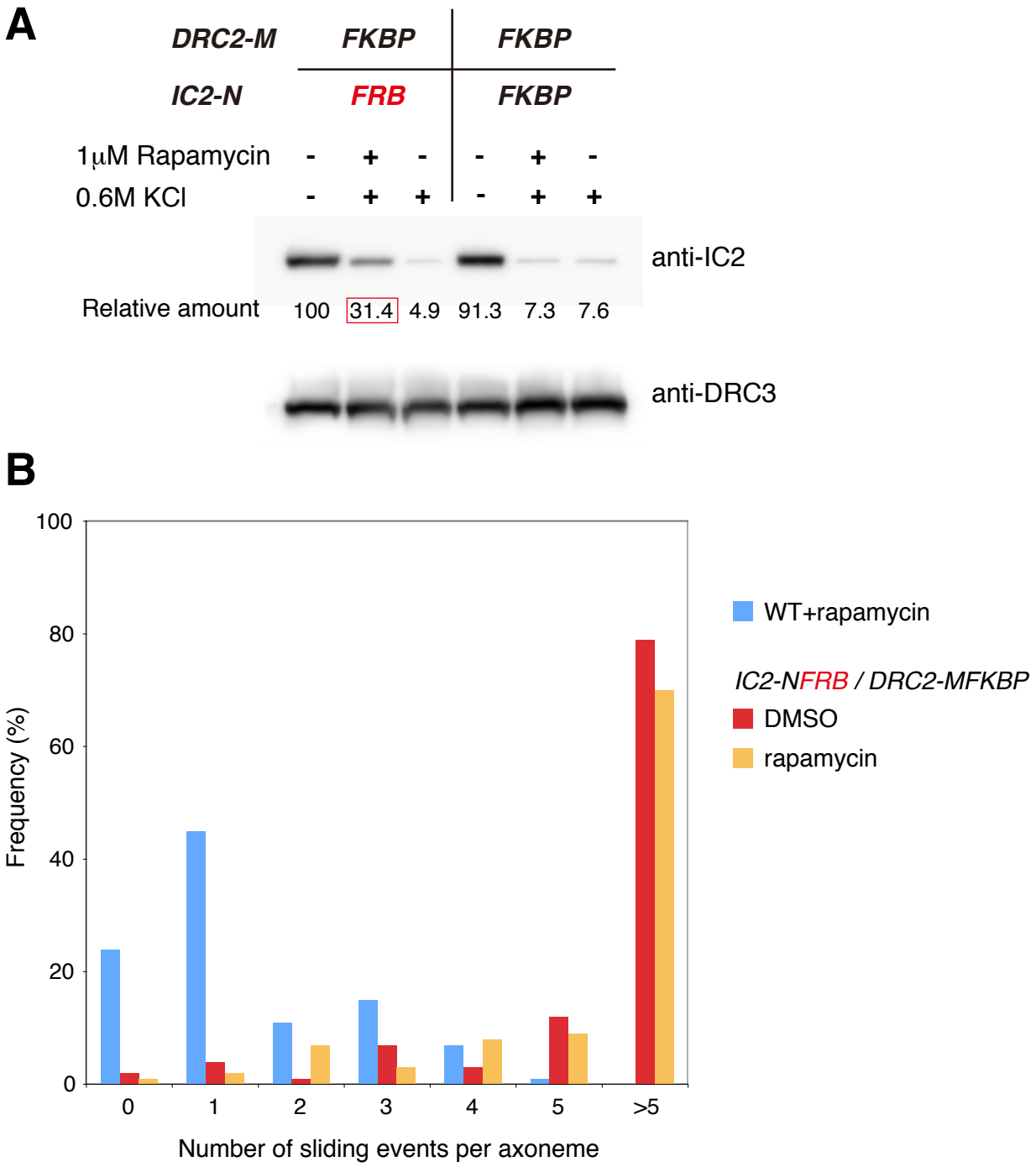
A
DRC2-M
FKBP
FKBP
IC2-N
FRB
FKBP
1μM Rapamycin
0.6M KCl
anti-IC2
Relative amount
100
31.4
4.9
91.3
7.3
7.6
anti-DRC3
B
Frequency (%)
Number of sliding events per axoneme
WT+rapamycin
IC2-NFRB / DRC2-MFKBP
DMSO
rapamycin

Figure S3

Figure S1

Characterization of *IC-BCCP* and *LC-BCCP* mutants. (A) Immunofluorescence images of BCCP-tagged axonemes. Biotinylation of BCCP tags were confirmed by streptavidin-Alexa 546 staining (left). Right: DIC images. (B) Fourier shell correlation curves of averaged tomograms used in this study.Intersection between each curve and horizontal line at 0.5 was taken as the effective resolution. Effective resolution of each structure was 4.5~ 5.0 nm. WT:wild-type.

Figure S2

3D structure of *oda4-s7* DMT. (A) Slabs of tomograms, showing DMT-attachment sites. (left) There is not apparent connection between ODA-Beak (green) and DMT. (right) There are two possible DMT-attachment sites projecting from γ HC (black arrowhead) and the outermost region of ODA (blue, red arrowhead). (B, C) DMT structure of *oda4s7* mutant. Diagrams in orange indicate approximate positions of the HCs. Green: ODA-Beak; pink:

N-DRC; blue: DMT-binding complex. Arrowheads indicate DMT-binding site of ODA. Bars = 20 nm. (D) Direction of views in B and C.

Figure S3

Additional data for Figure 3 and 4. (A) Related to Figure 3D and 3E. Immunoblots of axonemal proteins with and without rapamycin-treatment and KCl-extraction. With rapamycin-treatment, about 30% of ODA remained attached to axonemes after KCl-extraction. (B) Related to Figure 4D. Histograms of the sliding events per axoneme. Sliding disintegration was enhanced regardless of rapamycin-treatment.