Supplementary Information for

**Torque generating properties of *Tetrahymena* ciliary three-headed outer-arm dynein**

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Supplementary movies:

**Supplementary Movie 1** OAD-coated microbead translocated along the suspended microtubule. The two fields divided by the white dotted line are a pair of split images by the prism. The orange open square indicates a suspended microtubule across a 10-μm gap between the wall (gray lines). The solid and open red arrowhead indicate the image of the microbead split by the prism. This movie is 15 seconds long at normal speed. This image shows a region 40 × 4 μm in size. Scale bar: 2 μm.

**Supplementary Movie 2** Circumferential gliding movement of the microtubule driven by OAD. The gliding microtubule driven by OAD molecules fixed to cover glass surface tends to turn to the left, resulting in a curved path. This movie is 5 seconds long at ×60 speed. This image shows a region 47 × 47 μm in size. Scale bar: 10 μm.