

## Supplemental Figure 1: Dab2 MIR and myosin VI FL form a complex during single molecule

**processive motility.** Kymographs of a single Dab2 MIR-myosin VI FL complex during a processive run. Shown alongside is a schematic representation of the two-color single-molecule TIRF motility assay used to generate the kymographs.

## SUPPLEMENTAL MOVIE LEGENDS

Movie S1-S3: Dual color single-molecule motility movies for the same spot shown as Dab2 MIR-GFP channel (Movie S5), Cy3-Myosin VI FL channel (Movie S6) and merge of the two channels (Movie S7)

Movie S4: Actin remodeling on supported lipid bilayers by  $\Delta$ CBD dimer of myosin VI.

Movie S5: Actin remodeling on supported lipid bilayers by Dab2 + full-length myosin VI.

Movie S6: Merged dual color Alexa 488-actin (green) and Cy3-myosin VI (red) channels of a single aster during actin remodeling by  $\Delta$ CBD dimer.

Movie S7: Merged dual color Alexa 488-actin (green) and Cy3-myosin VI (red) channels of a field of view of actin remodeling by  $\Delta$ CBD monomer.