

## SUPPLEMENTAL FIGURE LEGENDS

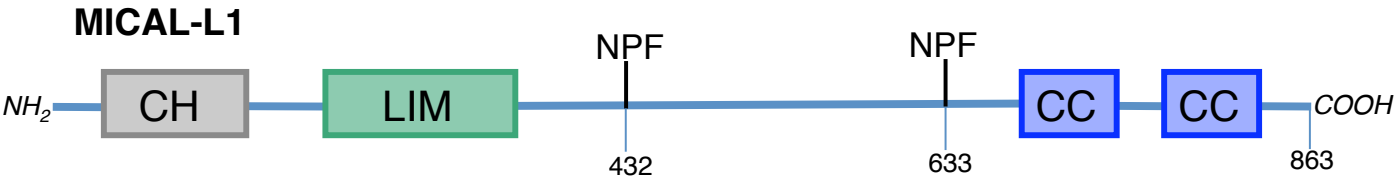
**Fig. S1.** Schematic diagram of MICAL-L1 domain architecture (*A*) and Crmp2 domain architecture (*B*). (*C*) Crmp2 is expressed in neuronal and non-neuronal cell lines. hTERT-RPE, SK-N-MC (human neuroblastoma cell line), SCC (squamous cell carcinoma), LnCaP, CaCo, A431, and human foreskin fibroblasts were harvested, lysed, separated by SDS-PAGE and immunoblotted with anti-Crmp2 and anti-actin antibodies. MICAL-L1= Molecule Interacting with CasL-Like1, CH= Calponin Homology, LIM= Lin11, Isl-1 and Mec-3, NPF= asparagine-proline-phenylalanine, CC= coiled-coil, Crmp2= Collapsin Response Mediator Protein 2, DHC= dynein heavy chain binding region, MT= microtubule association region, KLC= kinesin light chain binding region, DHPase homology= dihydropyrimidinase homology domain (a region with considerable homology to the D-hydantoinases or dihydropyrimidinases, a family of enzymes that catalyze the reversible hydrolytic ring opening of the amide bond in cyclic diamides. However, despite the homology, Crmp2 lacks most of the active site residues).

**Fig. S2.** Partial co-localization between Crmp2,  $\alpha$ -tubulin and MICAL-L1. (*A-L*) HeLa cells were transfected with HA-Crmp2, and either Mock-treated (control; *A-C* and *G-I*) or treated with 66  $\mu$ M nocodazole (*D-F* and *J-L*) for 2 h prior to fixation. Cells were immunostained with anti-HA and either anti- $\alpha$ -tubulin or anti-MICAL-L1 and analyzed by confocal microscopy. Arrows denote co-localized structures. Bar, 10  $\mu$ m.

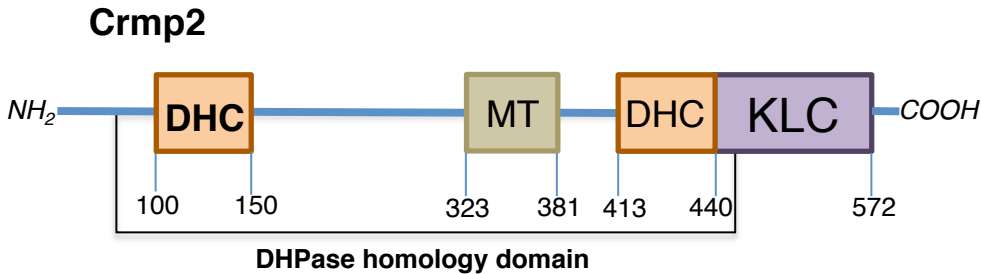
**Fig. S3.** Over-expression of siRNA-resistant-HA-Crmp2 rescues Tf-568 transport. (*A, B*) HeLa cells were either Mock-treated, treated with scrambled-siRNA or treated with Crmp2-siRNA oligonucleotides for 72 h. SiRNA-resistant-HA-Crmp2 was transfected for the last 48 h of the siRNA treatment, as indicated. Cells were harvested, lysed, separated by SDS-PAGE gel, and immunoblotted with either anti-Crmp2 or anti-actin antibodies. (*C-H*) Mock-treated or Crmp2-siRNA-treated cells were subjected to Tf-568 internalization for 5 min prior to fixation. Cells were then immunostained with anti-HA antibody and analyzed by confocal microscopy. Dashed borders depict siRNA-resistant-HA-Crmp2-transfected cells. Bar, 10  $\mu$ m.

# Supplemental Fig. 1

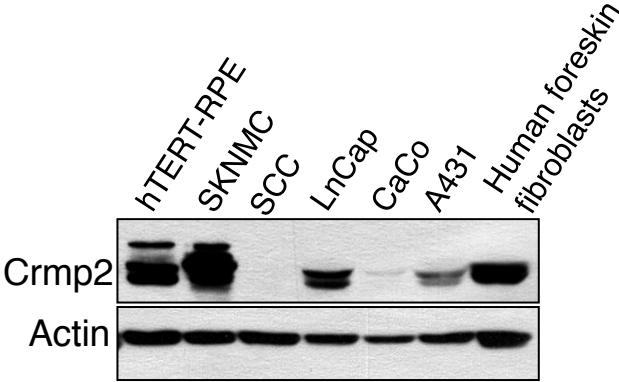
A



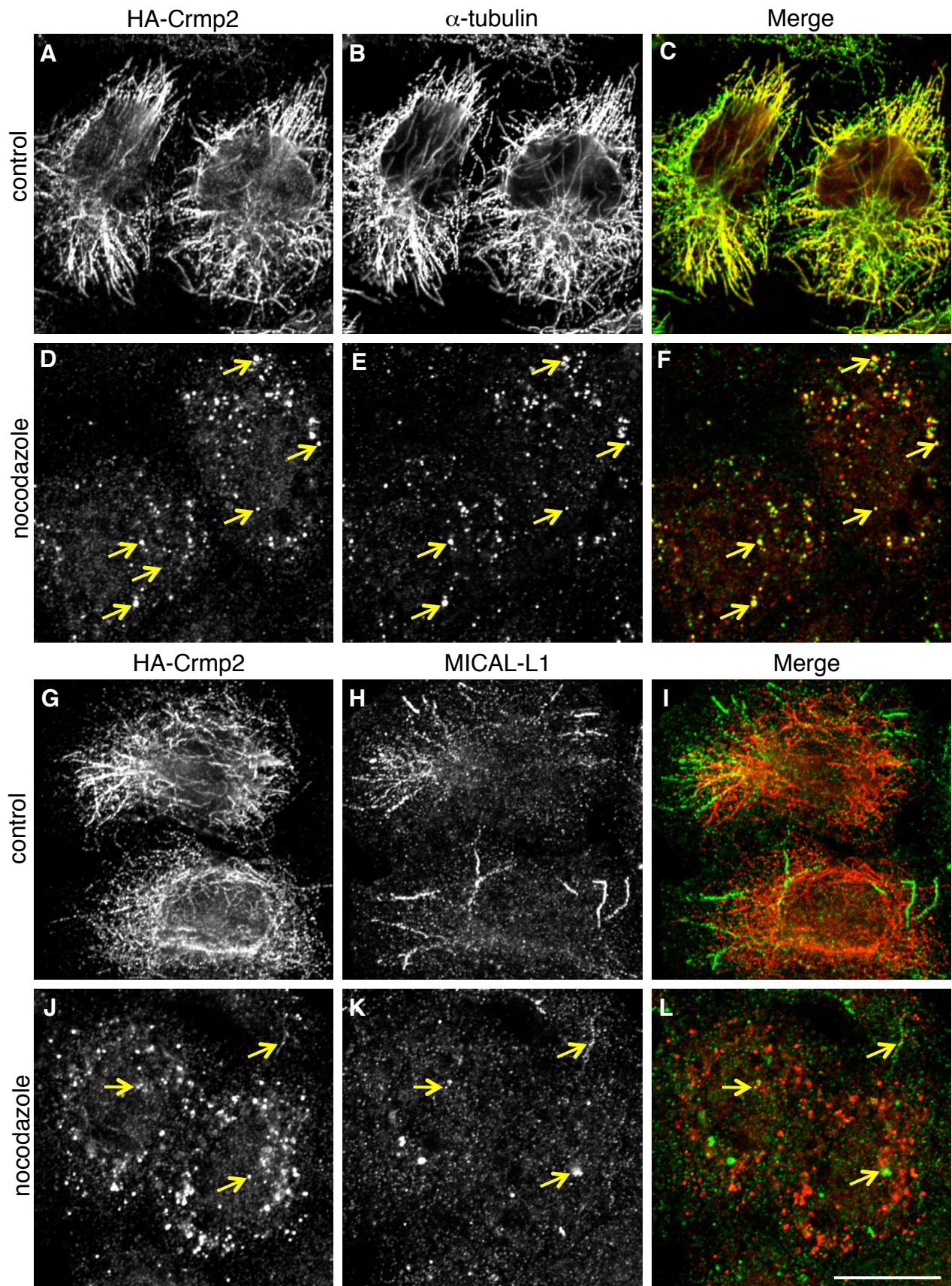
B



C



# Supplemental Fig.2



# Supplemental Fig.3

