

Table S1

	Golgi compaction	Defect in Retrograde transport (Golgi to ER)	Nuclear Shape	Recruitment of Arp2/3 to Golgi	References
PITP β siRNA	yes	yes	yes	not known	This paper
Expression of Syne-1 fragments or Syne-1 siRNA	yes	yes	yes	not known	(Gough and Beck, 2004; Dawe et al., 2009)
Latrunculin	yes	yes	no	not known	(Valderrama et al., 2001)
ARF1.Q71L	yes	yes	not known	yes	(Dubois et al., 2005; Zhang et al., 1994)
Active Cdc42	yes	yes	not known	yes	(Luna et al., 2002)
PLD2 siRNA	not known	yes	not known	not known	(Yang et al., 2008)
INPP5B PIP ₂ phosphatase	not known	yes	not known	not known	(Williams et al., 2007)

References

Dawe, H.R., Adams, M., Wheway, G., Szymanska, K., Logan, C. V., Noegel, A. A., Gull, K., and Johnson, C. A. (2009). Nesprin-2 interacts with meckelin and mediates ciliogenesis via remodelling of the actin cytoskeleton. *J. Cell Sci.* **122**, 2716-2726.

Dubois, T., Paleotti, O., Mironov, A. A., Fraasier, V., Stradal, T. E., De Matteis, M. A., Franco, M., and Chavrier, P. (2005). Golgi-localized GAP for Cdc42 functions downstream of ARF1 to control Arp2/3 complex and F-actin dynamics. *Nat. Cell Biol* **7**, 353-364.

Gough, L.L. and Beck, K. A. (2004). The spectrin family member Syne-1 functions in retrograde transport from Golgi to ER. *Biochim. Biophys Acta* **1693**, 29-36.

Luna, A., Matas, O. B., Martinez-Menarguez, J. A., Mato, E., Duran, J. M., Ballesta, J., Way, M., and Egea, G. (2002). Regulation of protein transport from the Golgi complex to the endoplasmic reticulum by CDC42 and N-WASP. *Mol Biol Cell* **13**, 866-879.

Valderrama, F., Duran, J. M., Babia, T., Barth, H., Renau-Piqueras, J., and Egea, G. (2001). Actin microfilaments facilitate the retrograde transport from the Golgi complex to the endoplasmic reticulum in mammalian cells. *Traffic*. **2**, 717-726.

Williams, C., Choudhury, R., McKenzie, E., and Lowe, M. (2007). Targeting of the type II inositol polyphosphate 5-phosphatase INPP5B to the early secretory pathway. *J. Cell Sci.* **120**, 3941-3951.

Yang, J.S., Gad, H., Lee, S. Y., Mironov, A., Zhang, L., Beznoussenko, G. V., Valente, C., Turacchio, G., Bonsra, A. N., Du, G., Baldanzi, G., Graziani, A., Bourgoin, S., Frohman, M. A., Luini, A., and Hsu, V. W. (2008). A role for phosphatidic acid in COPI vesicle fission yields insights into Golgi maintenance. *Nat. Cell Biol* **10**, 1146-1153.

Zhang, C.-J., Rosenwald, A. G., Willingham, M. C., Skuntz, S., Clark, J., and Kahn, R. A. (1994). Expression of a dominant allele of human ARF1 inhibits membrane traffic in vivo. *J. Cell Biol.* **124**, 289-300.