Supplementary Figure 5. Model for Lis1 role in Ca2+ modulation of Rho GTPases and neuronal cytoskeleton.

(a) IQGAP1 in the cytoplasm is bound to calmodulin (CaM). RhoA, Cdc42 and Rac1 tend to be found in the inactive state. Fewer +TIPs, including CLIP-170 and dynein/dynactin, are found at microtubule plus ends (blue cylinder bundle). (b) Upon Ca2+ influx, Ca2+-CaM releases IQGAP1, to bind active GTP-Cdc42 and GTP-Rac1 to promote filopodia and lamellipodia formation and with IQGAP1-CLIP-170, capture growing microtubule ends to the cortical actin meshwork. Lis1 binds IQGAP1 and CLIP-170 to recruit and stabilize IQGAP1/GTP-Cdc42, CLIP-170 and dynein/dynactin complexes at the cortical actin meshwork and microtubule ends to promote cytoskeletal modeling.