A new nuclear pore protein identified in Aspergillus nidulans termed NupA, along with its highly conserved partner Nup2, locates to nuclear pores during interphase but to the mitotic chromatin region during mitosis, suggesting that these proteins have mitotic functions. A montage image of a NupA-null mutant cell undergoing mitosis (time frames are left to right, top to bottom, in 30-s increments) reveals that NupA is not required for nuclear transport of NLS-DsRed (red), which is readily reimported during mitotic exit as expected. However, NupA is required for karyokinesis as revealed by tracking a nuclear envelope marker (green), which shows that the mutant generates a single nucleus rather than two daughter nuclei upon completion of mitosis. See the article by Markossian et al. on p. 605 of this issue of MBoC. (Image: Sarine Markossian, National Institutes of Health)