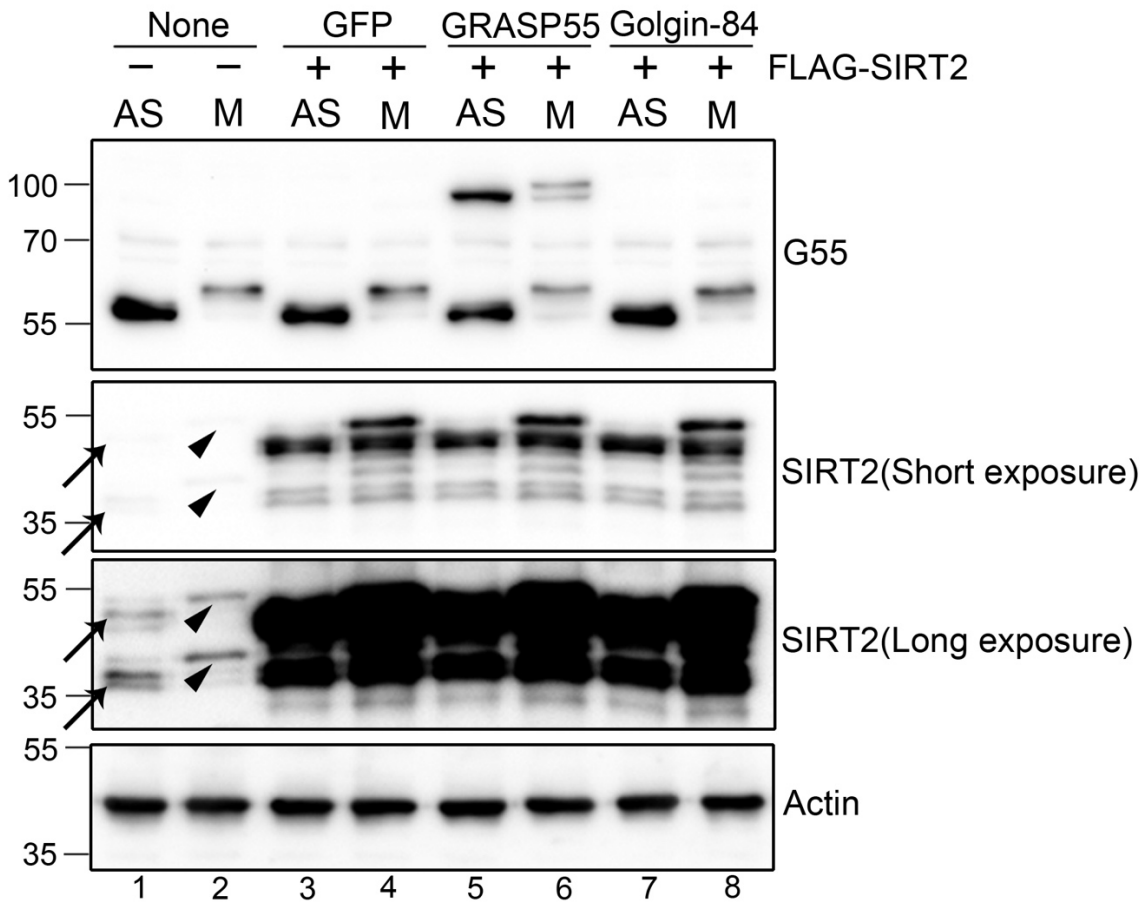


Figure S1. The endogenous SIRT2 protein level is low.
Asynchronous (AS) and mitotic HeLa cells or HeLa cells co-overexpressing GFP-tagged GRASP55 or Golgin-84 and FLAG-SIRT2 were lysed, blotted for GRASP55 (G55 in the figure) and SIRT2. Note that the endogenous SIRT2 level (lane 1 and 2) is very low compared to the overexpressed FLAG-SIRT2 (lane 3-8). Arrows indicate asynchronous SIRT2 bands, while arrowheads indicate mitotic SIRT2 bands.

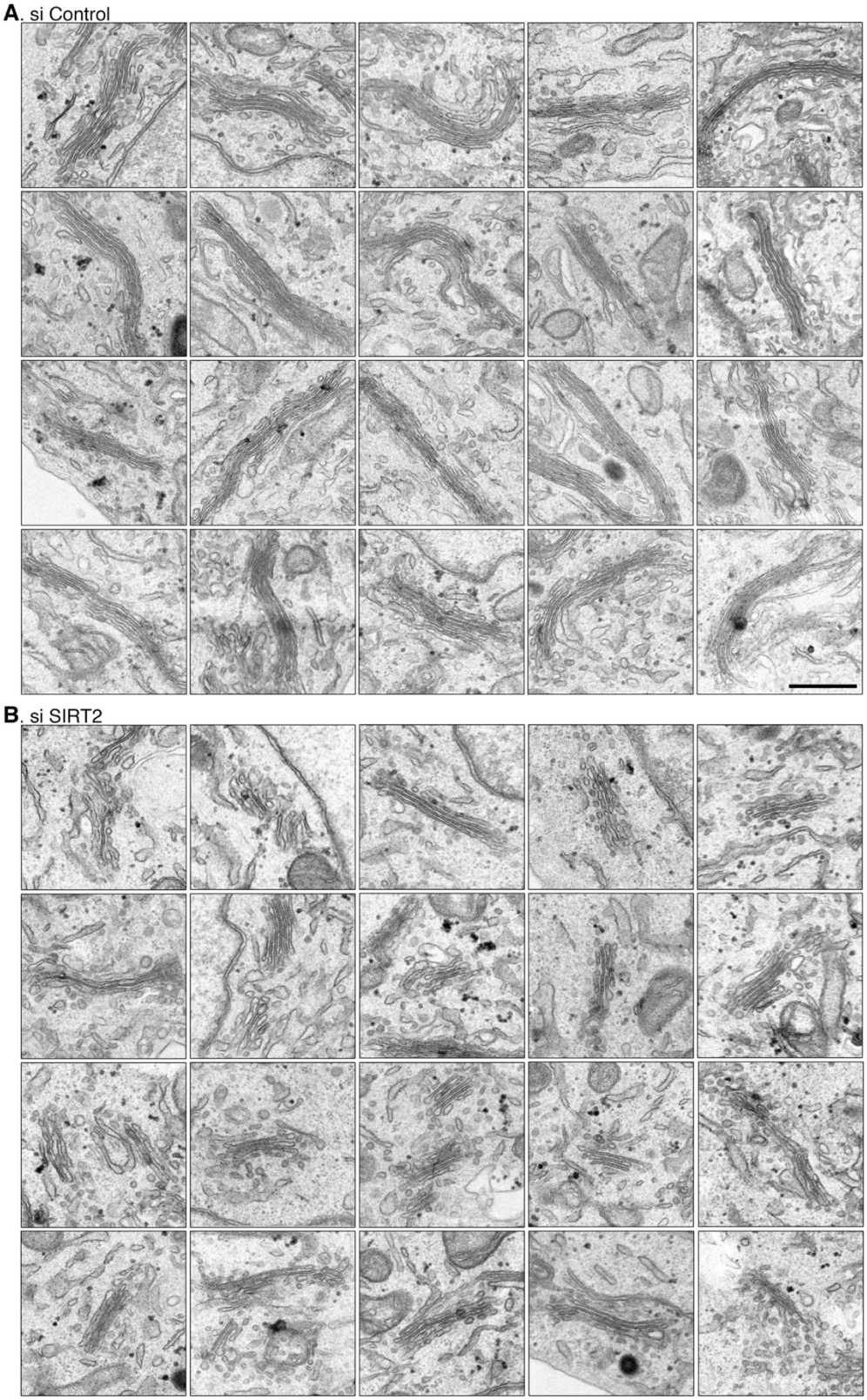


Figure S2. SIRT2 is required for proper Golgi structure maintenance.
HeLa cells were transfected with control (**A**) or SIRT2 (**B**) siRNA and analyzed by EM. Shown are galleries of EM images. The reduced average number or length of Golgi cisternae were frequently observed after SIRT2 depletion as displayed in **B**. Scale bar: 500 nm.

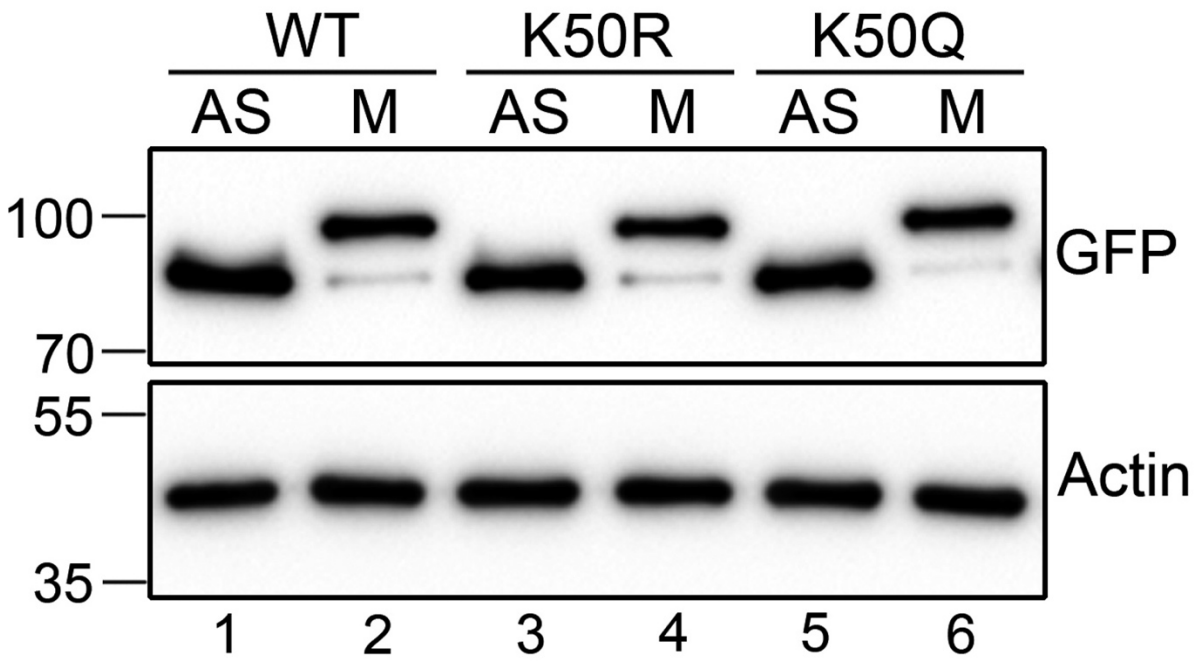


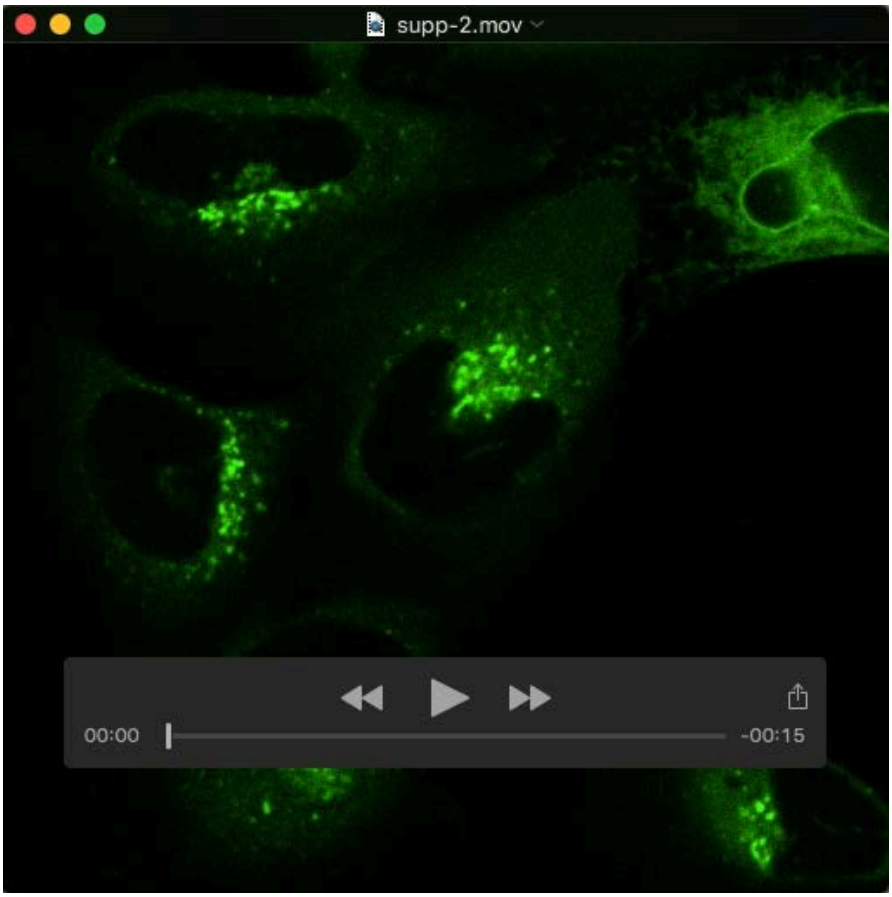
Figure S3. GRASP55 acetylation status does not affect its phosphorylation in mitosis.
HeLa cells were transfected with GFP-tagged GRASP55 WT, K50R or K50Q. Non-synchronized (AS) or mitotic (M) cells synchronized with nocodazole were lysed and blotted for GFP. Note that the GRASP55 phosphorylation status indicated by the band-shift is not affected by the acetylation mutations.

Table S1. Mass spectrometry analysis of GRASP55 post-translational modifications (acetylation, phosphorylation and ubiquitination) in asynchronous and mitotic HEK293T cells expressing GRASP55-GFP.

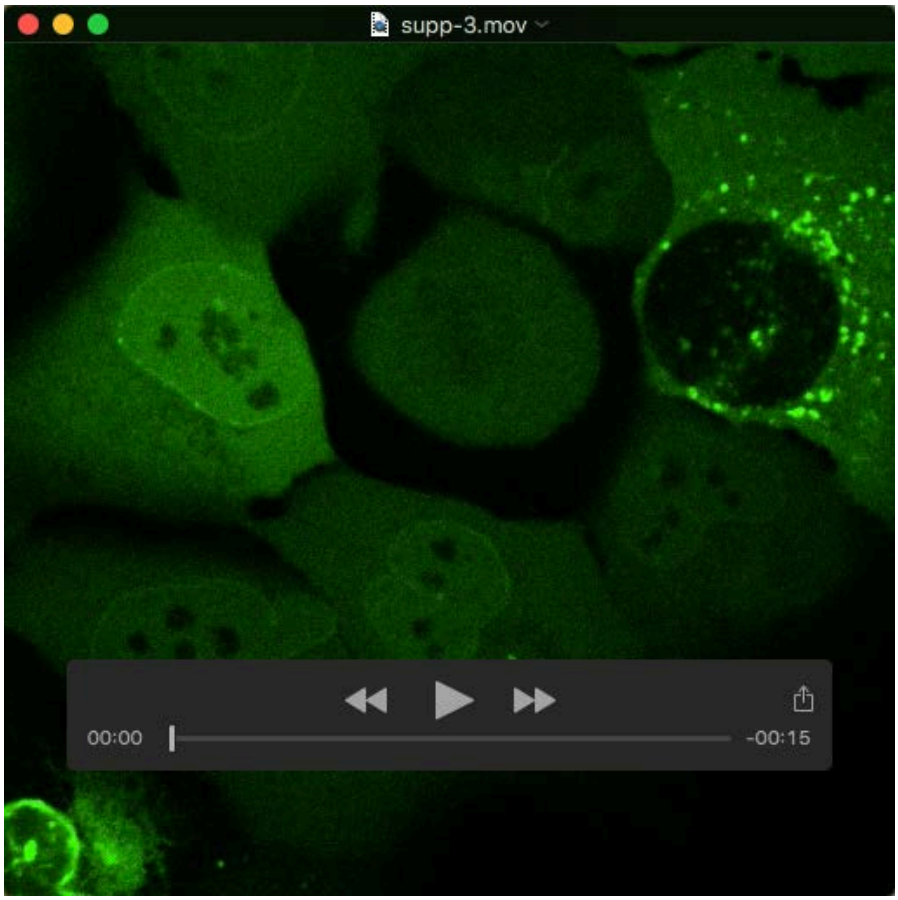
Click here to Download Table S1

Table S2. PRM (parallel reaction monitoring) mass spectrometry analysis of GRASP55-GFP K50 acetylation in mitotic HEK293T cells after silencing or overexpressing SIRT2.

Click here to Download Table S2



Movie 1. Live-cell imaging of GRASP55-GFP U2OS cells 72 h after transfection with si Control.



Movie 2. Live-cell imaging of GRASP55-GFP U2OS cells 72 h after transfection with si SIRT2.