Supplemental figure legends

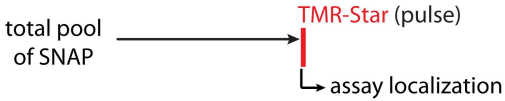
Figure S1 (related to Figure 1). Direct pulse labeling of SNAP-tagged histones. (A) Outline of SNAP-based pulse labeling experiment to visualize the total pool of SNAP protein. (B) Results of A for indicated histone-SNAP fusion proteins. (C) Centromeric enrichment can be observed in cells expressing low levels of H4-YFP.

Figure S2 (related to Figure 2). Quench-chase-pulse experiments reveal distinct assembly modes for H4 during the cell cycle. (A-E) Outlines and results for synchronized quench-chase-pulse experiments, analyzing H4-SNAP assembly for indicated portions of the cell cycle. (F) As in E, except that nocodazole was added to arrest cells upon mitotic entry.

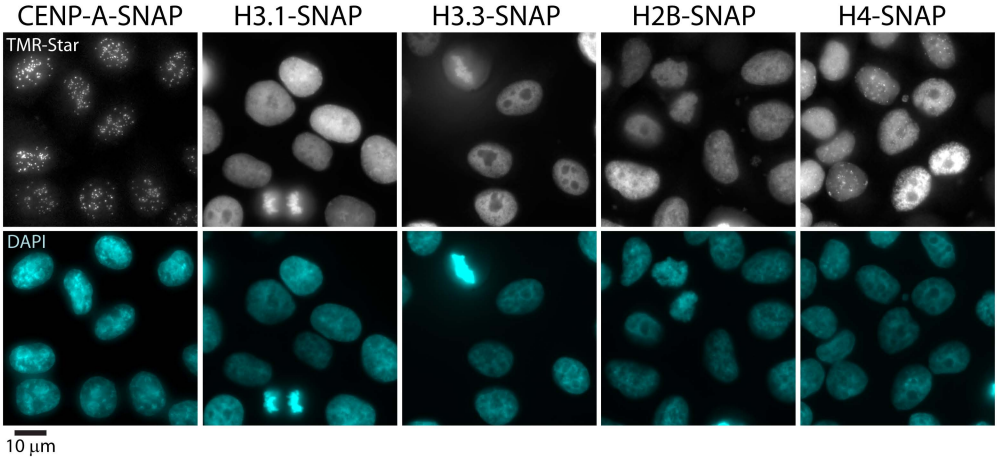
Figure S3 (related to Figures 3 and 4). Stable retention at centromeres is restricted to CENP-A, H4, and $H3^{CATD}$. (A) Indicated cell lines were treated as in Figure 3A and imaged at indicated time points. Enlargements show rescaled images of centromeric signal. (B) Results of experiment as in Figure 3A for SNAP-tagged H3.1, H3.3, and H2B. Saturated enlargements of boxed cells are shown. No preferential retention at centromeres is observed for these histones.

Figure S1

A



B



C

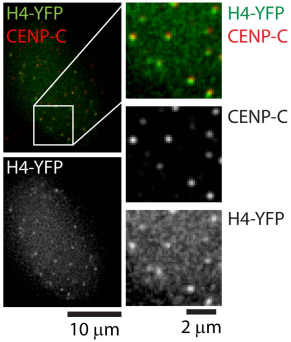


Figure S2

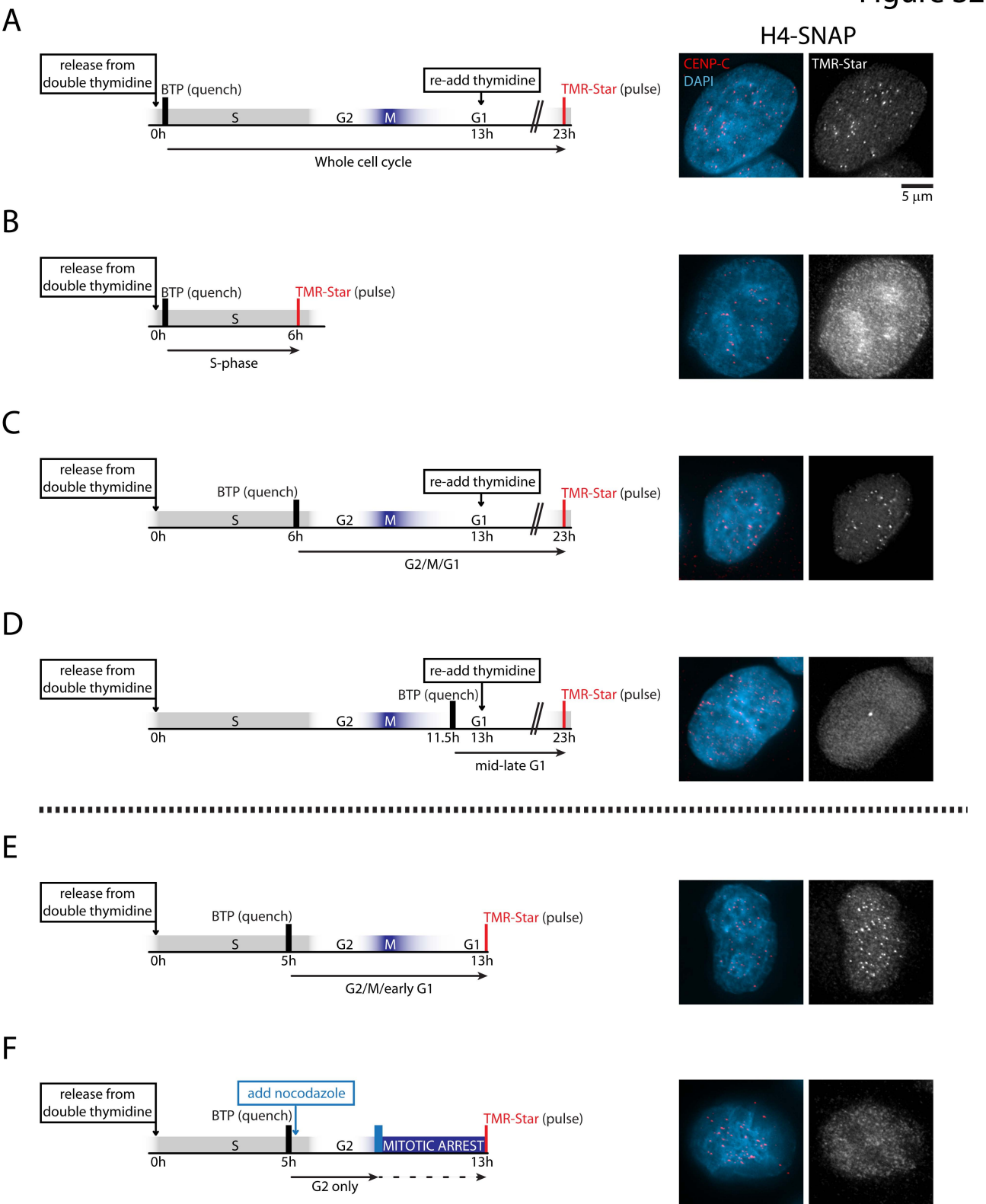
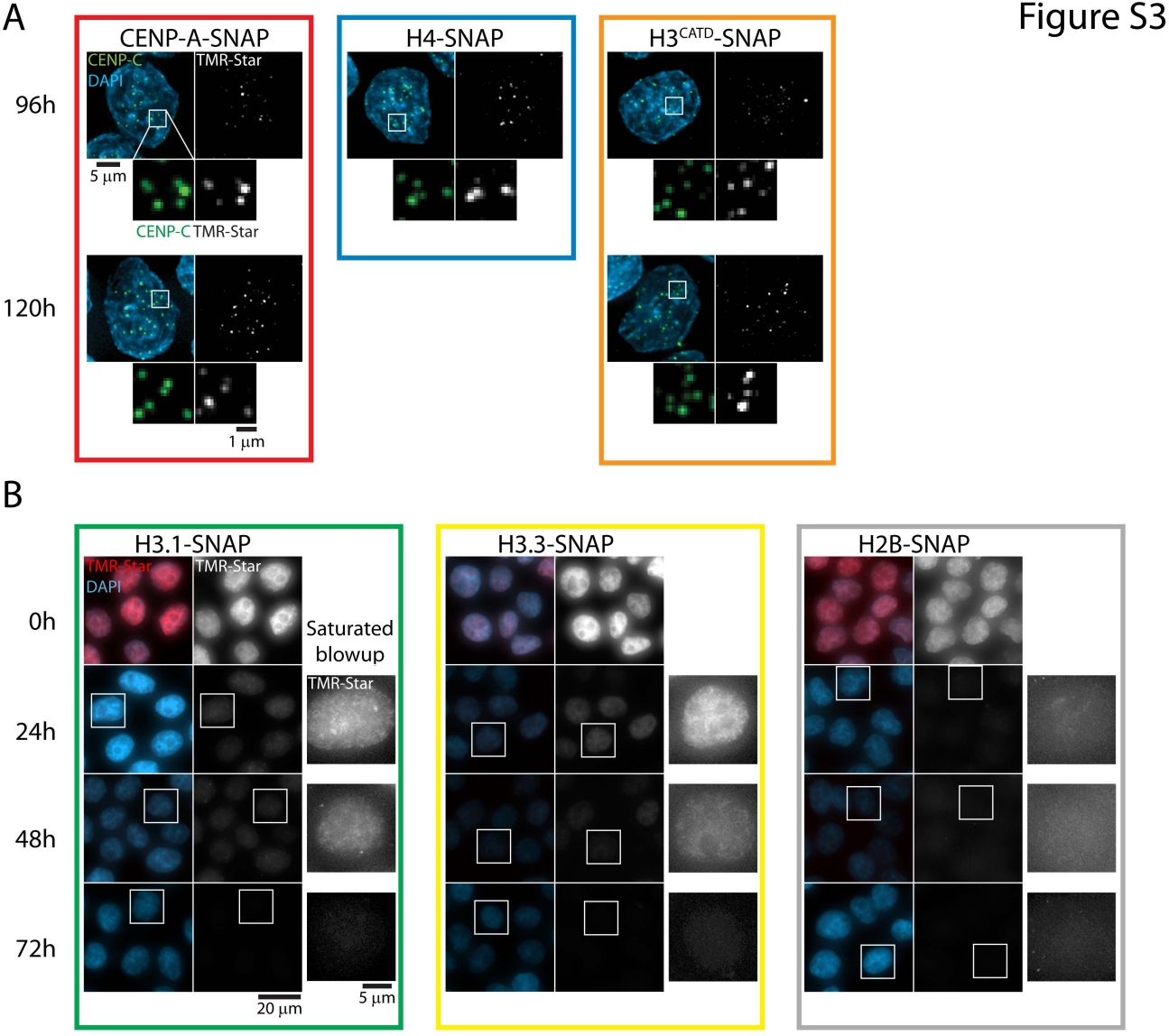

A
H4-SNAP
release from double thymidine
BTP (quench)
re-add thymidine
TMR-Star (pulse)
S
G2
M
G1
0h
13h
23h
Whole cell cycle
CENP-C
DAPI
TMR-Star
5 μm
B
release from double thymidine
BTP (quench)
TMR-Star (pulse)
S
0h
6h
S-phase
C
release from double thymidine
BTP (quench)
re-add thymidine
TMR-Star (pulse)
S
G2
M
G1
0h
6h
13h
23h
G2/M/G1
D
release from double thymidine
re-add thymidine
BTP (quench)
TMR-Star (pulse)
S
G2
M
G1
0h
11.5h
13h
23h
mid-late G1
E
release from double thymidine
BTP (quench)
TMR-Star (pulse)
S
G2
M
G1
0h
5h
13h
G2/M/early G1
F
release from double thymidine
add nocodazole
BTP (quench)
TMR-Star (pulse)
S
G2
MITOTIC ARREST
0h
5h
13h
G2 only

Figure S3


A
CENP-A-SNAP
H4-SNAP
H3CATD-SNAP
96h
120h
CENP-C
DAPI
TMR-Star
5 µm
CENP-C TMR-Star
1 µm
B
H3.1-SNAP
H3.3-SNAP
H2B-SNAP
0h
24h
48h
72h
TMR-Star
DAPI
Saturated blowup
20 µm
5 µm