## **Supplementary Figure Legends**

**Supplementary Figure 1.** BMH-9, BMH-22 and BMH-23 cause a reduction in RPA194 half life. A375 cells were treated with cycloheximide (CHX,  $10 \mu g/ml$ ) in the presence or absence of the BMH-molecules ( $10 \mu M$ ) for the indicated times, and the cell lysates were analyzed by western blotting for RPA194 and NCL.

**Supplementary Figure 2.** BMH-9, BMH-22 and BMH-23 do not activate the DNA damage response. A375 cells were treated with the indicated BMH-compounds (10  $\mu$ M) for 6 hours and stained for Ser139-phosphorylated H2AX ( $\gamma$ H2AX), Ser824-phosphorylated KAP-1 (KAP-1 Ser824) and DNA. As a positive control for DNA damage cells were treated with BMH-7, BMH-15 or irradiated (IR) (10 Gy) and as a negative control cells were treated with BMH-21 (1  $\mu$ M). N = 4. Scale bar, 10  $\mu$ m.

**Supplementary Figure 3.** p53 activation by Nutlin-3 does not affect the integrity of the nucleolus or rRNA synthesis. A, U2OS cells were treated with Nutlin-3 (10  $\mu$ M) for 4 hours and stained for p53, NPM and DNA. B-E, A375 cells were treated with Nutlin-3 (10  $\mu$ M) for 3 hours. B, Cells were stained for UBF, FBL, NPM, and NCL. C, Cells were stained for RPA194. D, Quantitative image analysis of expression of RPA194. Mean fold change as compared to control, set as 1, is shown. N = 2, error bars represent SD. E, Cells were labeled with FUrd for the last 30 min and FUrd incorporation was detected. F, Quantitative image analysis of FUrd incorporation. Mean fold change as compared to control, set as 1, is shown. N = 2, error bars represent to control, set as 1, is shown. N = 2, error bars represent to compared to control. Set as 1, is shown. Mean fold change as compared to control set as 1, is shown. N = 2, error bars represent SD. E, Cells were labeled with FUrd for the last 30 min and FUrd incorporation was detected. F, Quantitative image analysis of FUrd incorporation. Mean fold change as compared to control, set as 1, is shown. N = 2, error bars represent to control, set as 1, is shown. N = 2, error bars represent to control, set as 1, is shown. N = 2, error bars represent to control, set as 1, is shown. N = 2, error bars represent to control, set as 1, is shown. N = 2, error bars represent to control, set as 1, is shown. N = 2, error bars represent to control, set as 1, is shown. N = 2, error bars represent to control, set as 1, is shown. N = 2, error bars represent SEM. Scale bars, 10  $\mu$ m.

## Supplementary Figure 1.



## Supplementary Figure 2.



## Supplementary Figure 3.



4