## **Supplementary Figure 1.**

(A) WT (K699), YFL234 (*dot1A*), YFL499/3d (*dot1Achk1A*) and YFL438 (*dot1Amec1-1*) cells were held arrested in M phase with nocodazole and either mock or UV irradiated (75 J/m<sup>2</sup>). Analysis of Rad53 phosphorylation, 30 minutes after UV irradiation, was performed by monitoring the mobility shift in SDS-PAGE. (B) WT, *dot1A*, *set1Aset2A* and *dot1Aset1Aset2A* cells were held arrested in M phase with nocodazole and either mock or UV irradiated. Analysis of Rad53 phosphorylation, 30 minutes after UV irradiation, was performed by monitoring the mobility shift in SDS-PAGE. (C) WT, *hhf2-K20R*, *hhf2-K59R*, *dot1A*, *hhf2-K20Rdot1A*, *hhf2-K59Rdot1A* cells were arrested in nocodazole in M-phase and either mock or UV irradiated. Analysis of checkpoint activation, 30 minutes after UV irradiation, was performed by monitoring the mobility shift of Rad53 in SDS-PAGE. (D) YMAG149/7b (WT), YMAG168 (H2A-S129A), YMAG150/4A (*dot1A*) and YMAG170 (*dot1A*H2A-S129A) were arrested with nocodazole and either mock or UV irradiated (75 J/m<sup>2</sup>); 30 minutes after irradiation, Rad53 and Rad9 proteins were analyzed by SDS PAGE and western blotting.