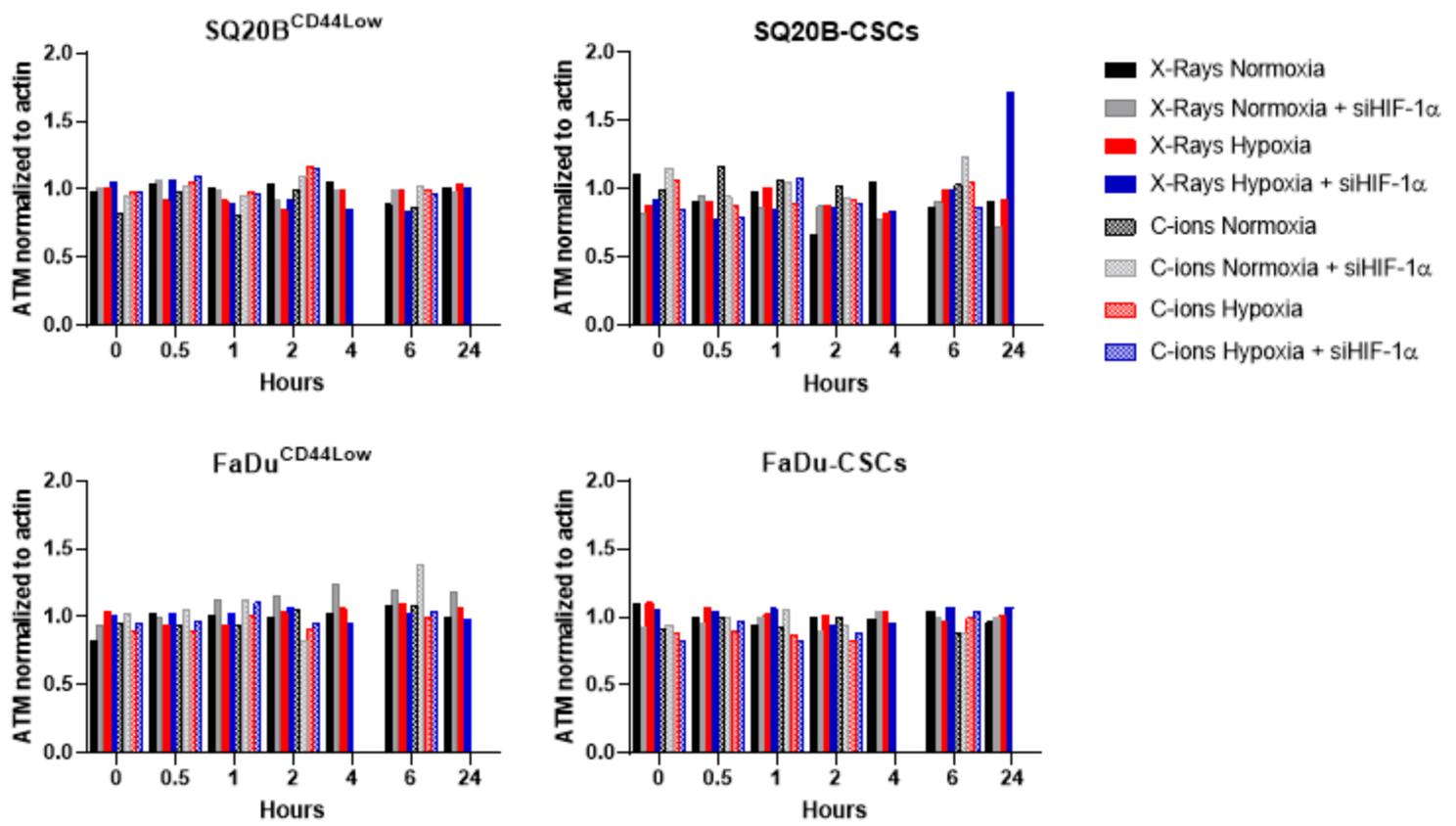
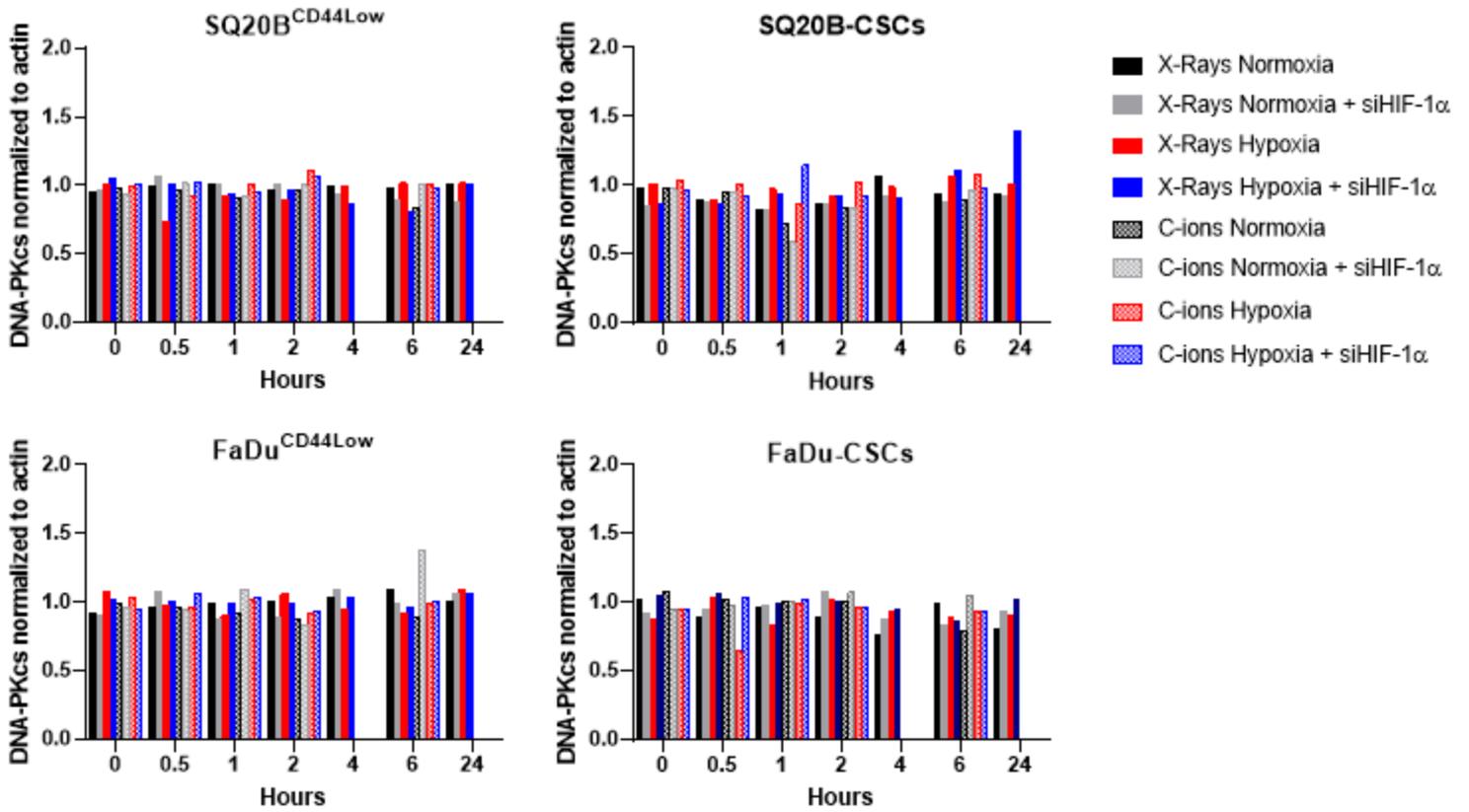


Supplementary Figure S1: Expression of ATM, P-ATM, DNA-PKcs and P-DNA-PKcs by Western-blot from 30 min to 24 h after 2 Gy X-Rays or C-ions ± siHIF-1α under normoxic and hypoxic conditions. (n=1)

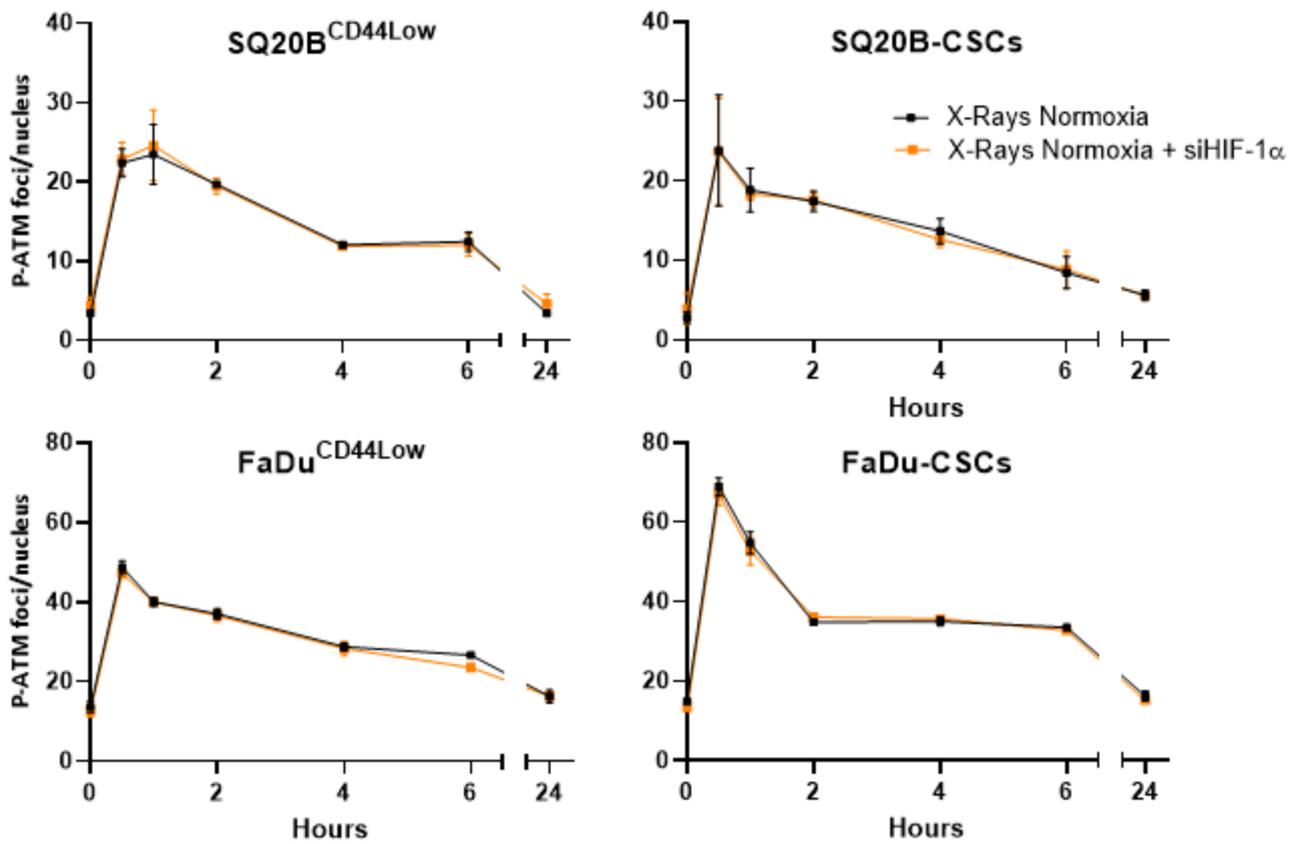
**A**



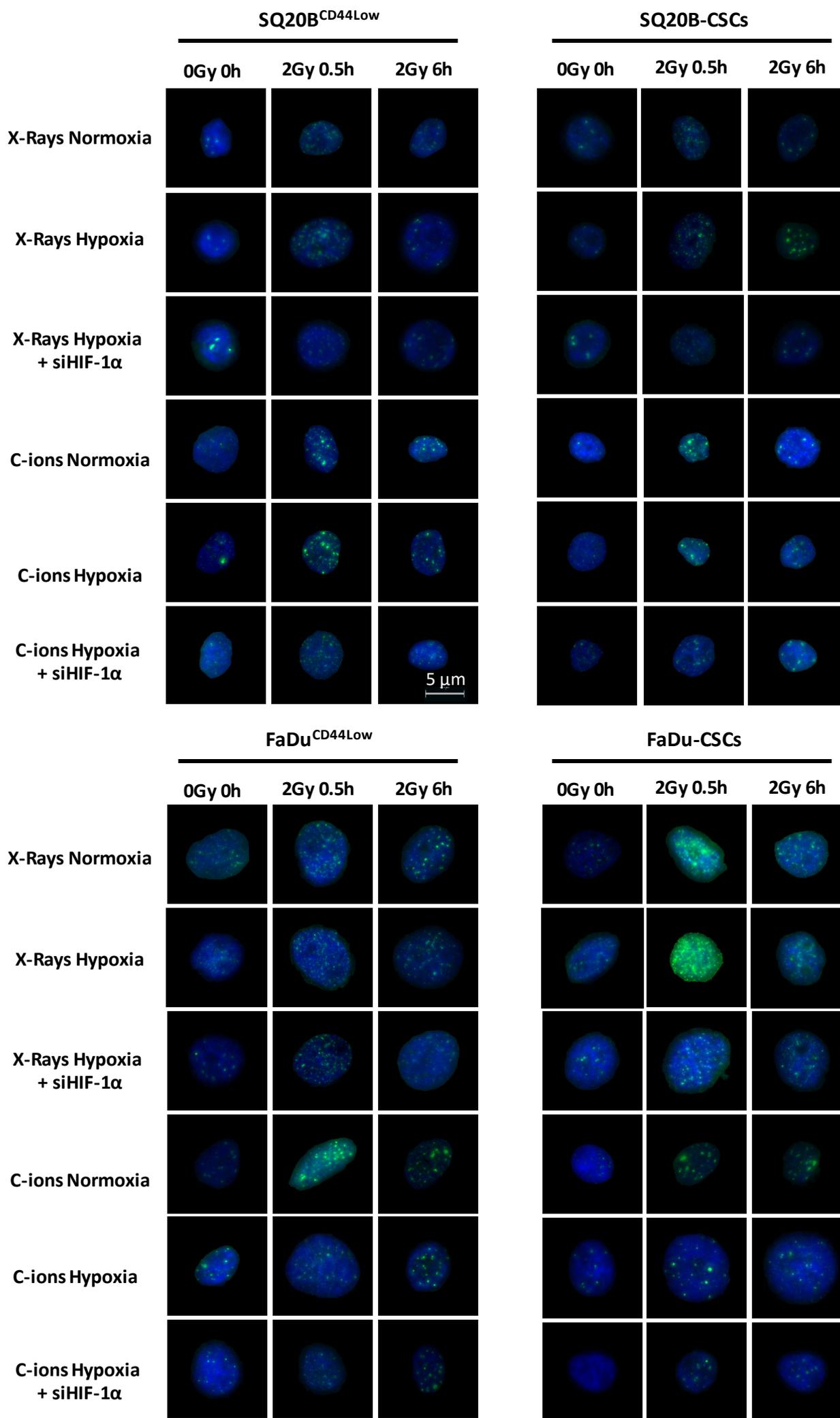
**B**



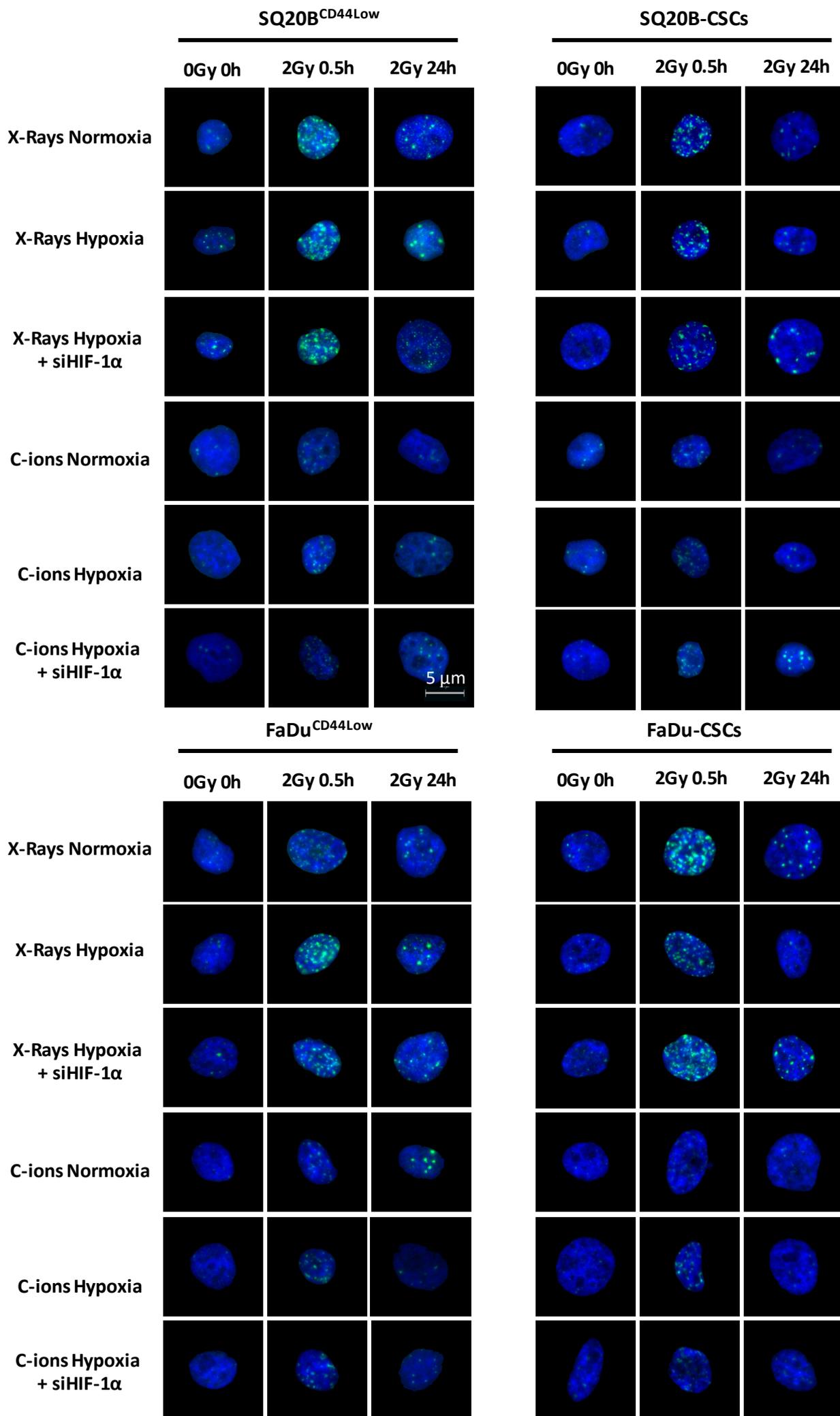
*Supplementary Figure S2: Quantification of the expression of ATM (A) and DNA-PKcs (B) normalized to actin obtained by Western-blot in Supplementary Figure 1.*



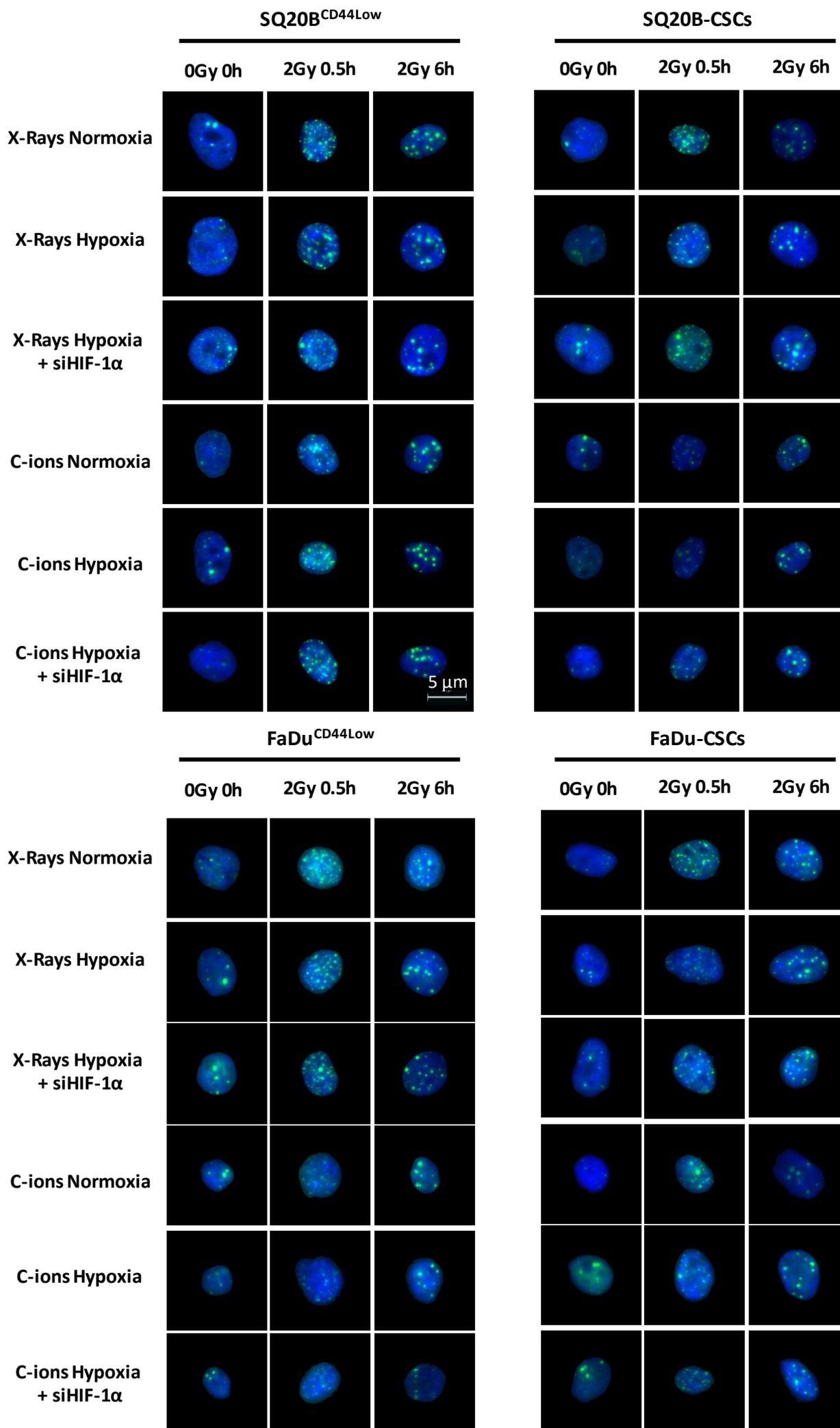
**Supplementary Figure S3:** Kinetics of ATM phosphorylation (P-ATM) after 2 Gy X-Rays  $\pm$  siHIF-1 $\alpha$ . The symbols and error bars indicate means  $\pm$  SD values (Student's *t*-Tests, Holm-Sidak method,  $\alpha=0.5$ ).



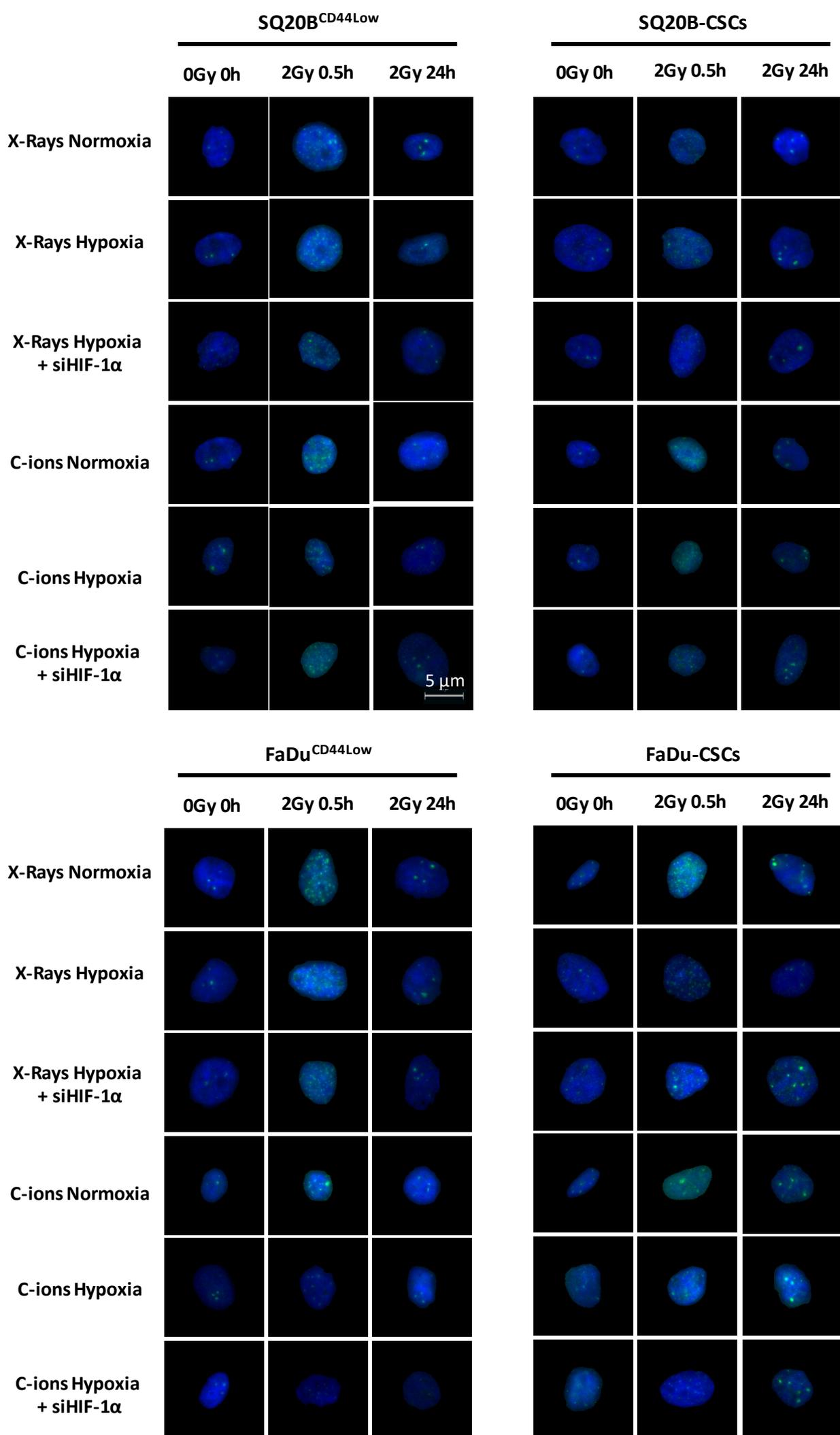
Supplementary Figure S4: Representative images of P-ATM foci per nucleus in SQ20B<sup>CD44Low</sup>, FaDu<sup>CD44Low</sup>, SQ20B-CSCs and FaDu-CSCs.



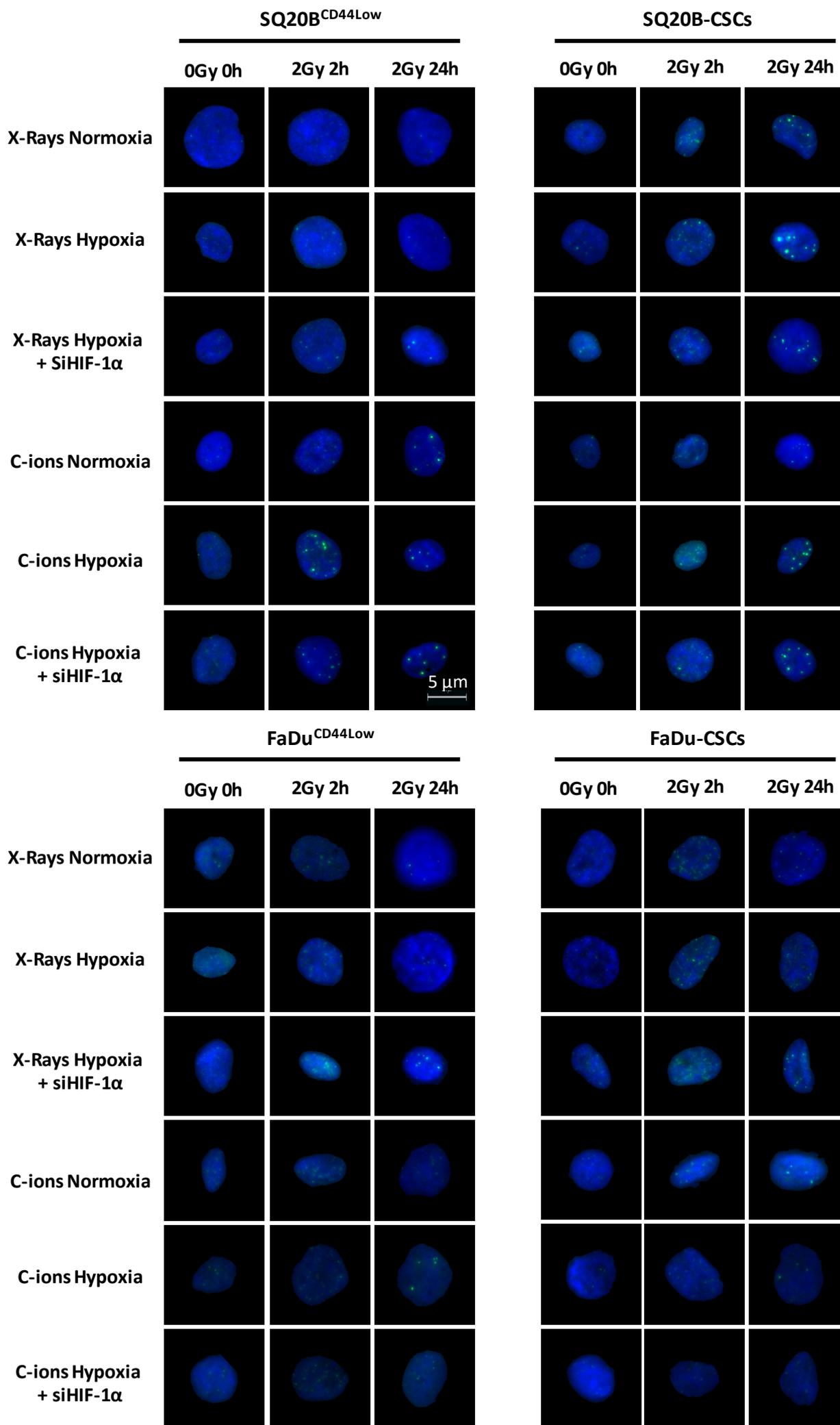
Supplementary Figure S5: Representative images of  $\gamma$ H2AX foci per nucleus in SQ20B<sup>CD44Low</sup>, FaDu<sup>CD44Low</sup>, SQ20B-CSCs and FaDu-CSCs.



Supplementary Figure S6: Representative images of 53BP1 foci per nucleus in SQ20B<sup>CD44Low</sup>, FaDu<sup>CD44Low</sup>, SQ20B-CSCs and FaDu-CSCs.



Supplementary Figure S7: Representative images of P-DNA-PKcs foci per nucleus in SQ20B<sup>CD44Low</sup>, FaDu<sup>CD44Low</sup>, SQ20B-CSCs and FaDu-CSCs.



Supplementary Figure S8: Representative images of RAD51 foci per nucleus in SQ20B<sup>CD44Low</sup>, FaDu<sup>CD44Low</sup>, SQ20B-CSCs and FaDu-CSCs.