Hypothesis: Diminished SKP1 or RBX1 expression and genotoxic stress will exacerbate CIN in FT cells to ultimately promote disease development.

EVALUATING CIN

Figure 2. Changes in Nuclear Area and Micronucleus Formation are Indicative of CIN.

A) Nuclei showing visual increases in nuclear areas following IR in RBX1−/− cells. (B) Graph presenting the cumulative nuclear area distribution frequencies following IR in RBX1−/− cells relative to controls (−IR). KS tests reveal statistically significant increases (i.e., rightward shift) in nuclear area distributions relative to non-IR treated controls (***, p-value < 0.0001). (C) Cumulative nuclear area distribution frequencies following IR in RBX1−/− cells relative to controls (−IR).

SUMMARY AND CONCLUSION

Summary: IR induces significant increases in nuclear areas and enhances micronuclear formation in SKP1−/− and RBX1−/− clones. Data shows that IR exacerbates CIN in SKP1−/− and RBX1−/− clones (illustrated in schematic, left) and supports the possibility that genotoxic stress produced during ovulation may synergize with genetic defects in SKP1 and RBX1 to promote HGSOCC pathogenesis.

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