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NEDD8-conjugating enzyme E2 UBE2F confers radiation resistance by protecting lung cancer cells from apoptosis

Key words: UBE2F, Oxidative stress, Radiosensitization, Apoptosis, Lung cancer

Research Summary

This study uncovers a novel mechanism: Neddylation of E2 UBE2F helps lung cancer cells to escape irradiation-induced cell apoptosis and consequently results in radioresistance.

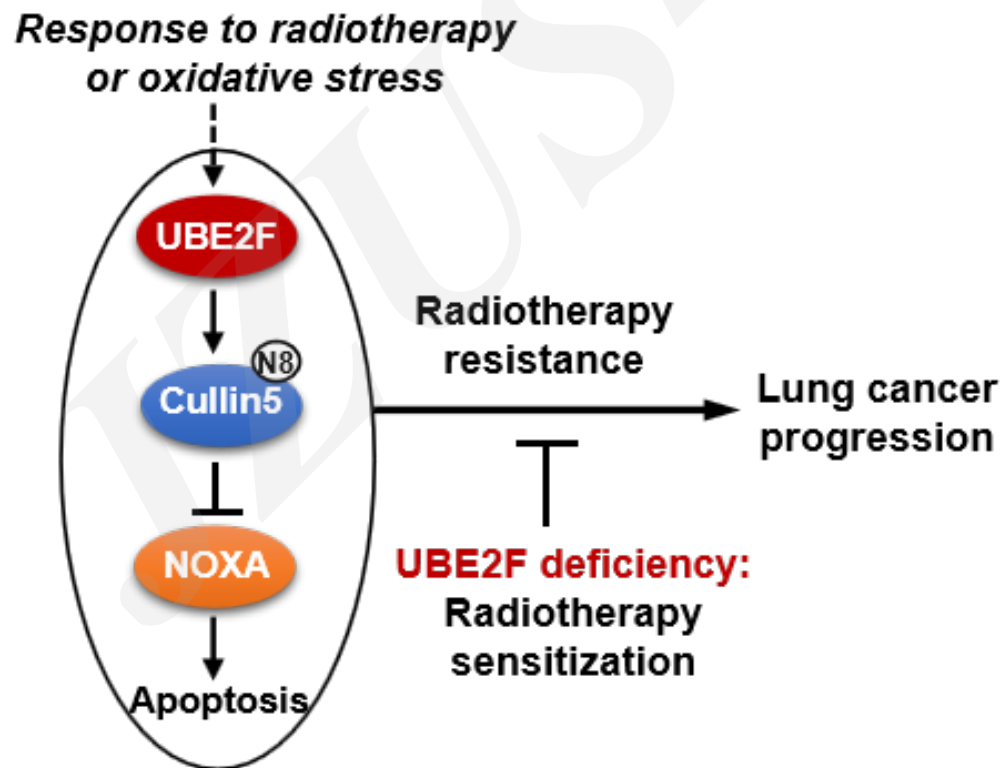


Figure 4D

Innovation points

- **Up-regulation of UBE2F expression by irradiation or other stimulus-induced oxidative stress.**
- **Sensitization of lung cancer cells to irradiation by inhibition of UBE2F, caused by accumulation of pro-apoptotic protein NOXA.**
- **Effect of UBE2F inhibition on lung cancer cells *in vivo*.**
- **Overexpression of UBE2F in human lung adenocarcinoma conferred a poor overall survival.**
- **In summary, inactivation of UBE2F serves as a potent radiosensitizing strategy in lung cancer cells by triggering NOXA-mediated apoptosis.**