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【955】 Chronobiology of DNA Damage Checkpoint Override

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When faced with chromosomal double-strand DNA breaks, cells activate a complex DNA Damage Checkpoint response that arrests the cell cycle and reprograms gene expression. Although the regulators of the core network have been intensively explored, the mechanism of checkpoint override remains poorly understood. To address this gap, we developed novel strategies to shed light on how the DNA Damage Checkpoint signaling events are coordinated with high temporal resolution. Through perturbation of engineered checkpoint proteins at the single-cell level, we aim to establish a quantitative model of DNA Damage Checkpoint override in *Saccharomyces cerevisiae*. This research project holds incredible potential for the development of novel therapeutic strategies and cancer treatments.

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