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MRN complex is an essential effector of DNA damage repair

Key words: DNA damage repair, the MRE11-RAD50-NBS1 (MRN) complex, homologous recombination, non-homologous end joining

Research Summary

This review focused on the structure of the MRN complex and summarized the key roles it played in the following aspects:

- **DSB detection and DNA damage protein signaling**
- **DNA end resection and homologous recombination repair pathway**
- **Non-homologous end joining repair pathway**

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Innovation points

- **Introduction** of the MRN complex from domain structure to its functions in DNA damage repair.

- **Summary** of the most updated research progress about the MRN complex in DNA damage repair, including DNA damage protein signaling and repair pathway choice.

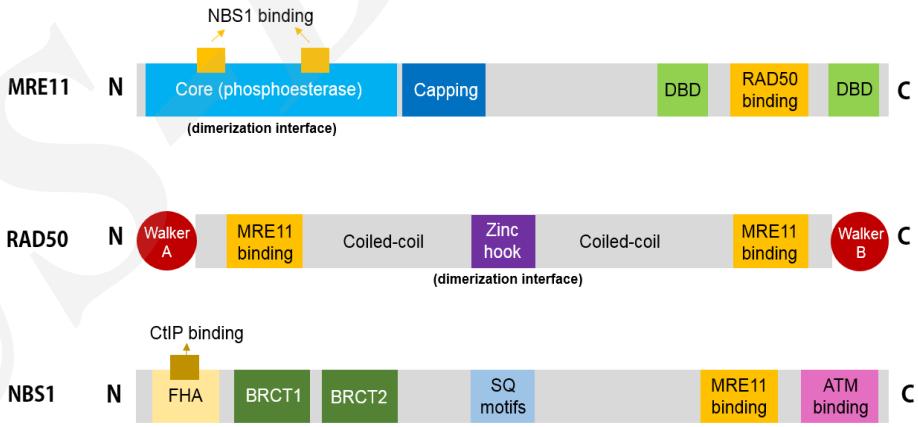


Figure 1

- **Emphasis** of the specific functions of the MRN complex in different DNA damage repair pathways under different cell conditions.