

DSB inducing agents induce double strand DNA breaks

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Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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Literature references

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Reactome database release: 88

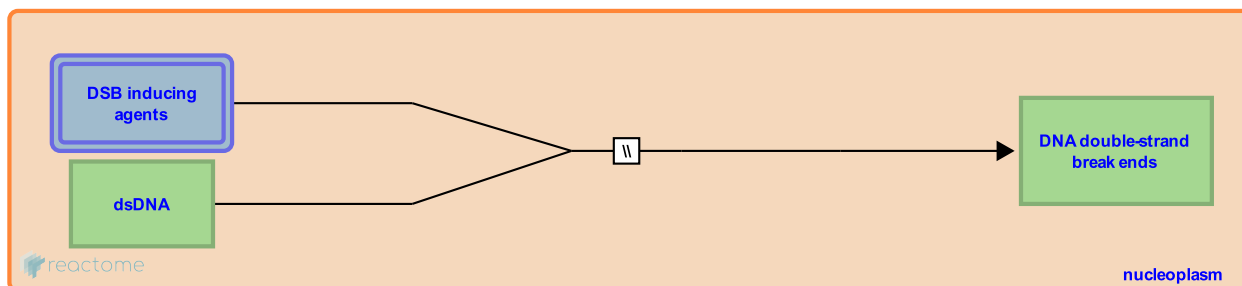
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Reactive oxygen species (ROS) induce DNA double-strand breaks (DSBs) (Yu and Anderson 1997) in cells undergoing oxidative stress. In addition to ROS, DSBs can also be directly generated by ionizing radiation. Agents that interfere with the progression of replication forks, such as topoisomerase poisons used in chemotherapy, induce DSBs indirectly (Curtin 2012).

Literature references

Anderson, D., Yu, TW. (1997). Reactive oxygen species-induced DNA damage and its modification: a chemical investigation. *Mutat. Res.*, 379, 201-10. ↗

Curtin, NJ. (2012). DNA repair dysregulation from cancer driver to therapeutic target. *Nat. Rev. Cancer*, 12, 801-17. ↗

Editions

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