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Mathematical modeling of DNA repair.

DNA repair is a set of processes that cell use for identifying and repairing damage to DNA. DNA is a one of the most important molecules in the cell. Whole protein machinery is dependent on accurate translation from DNA sequence to amino acid sequence, therefore it is crucial to keep DNA in perfect condition.

In human cells are metabolic activities and environmental factors responsible for over 1 million molecular lesions per cell per day. Many of these lesions cause structural distortions in DNA such as strand breaks or abasic sites.

For better understanding of processes responsible for DNA repair good mathematical models of various pathways are needed. Those models can also be used for predictions of cellular response to various damage of DNA.

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