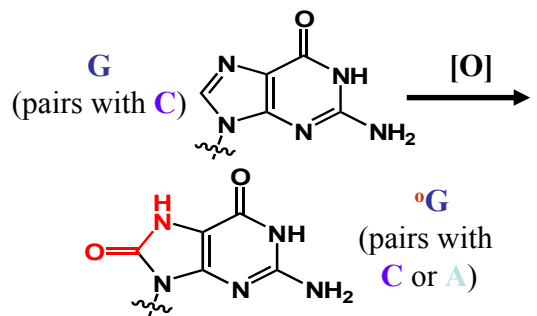


Rate of Excision for Human 8-oxoguanine DNA Glycosylase

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Background. Oxygen radicals can cause guanine to mutate to an oxidized guanine (8-oxoG). To fix these mutations, the DNA repair protein human 8-oxoguanine DNA Glycosylase 1 (hOGG1) excises 8-oxoG. This research studied the rates of repair of hOGG1 excising 8-oxoG from free DNA and nucleosomes - DNA wrapped around histone proteins.

Approach. hOGG1 was FPLC purified. 8-oxoG containing substrates were produced by PCR amplification using a fluorescent Cy5 labeled primer. Nucleosomes were produced during an overnight dialysis of purified histones with purified DNA. The substrate, either nucleosomeal or free DNA, was treated with hOGG1 and quenched with NaOH. A denaturing PAGE was used to separate excised from non-excised DNA and to determine the rate of excision of hOGG1.



K. Luger, *et al.*, "Crystal Structure of the nucleosome core particle at 2.8 Å resolution," *Nature*, **389**, 251-260 (1997).

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