

DNA repair subsystems of *Thermus thermophilus* HB8

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DNA is subjected to many endogenous and exogenous damaging agents, which yields a variety of DNA damages. In order to repair those DNA damages, cells are equipped with a complex network of DNA repair subsystems including direct reversal, base excision repair, nucleotide excision repair, mismatch repair, and recombination repair subsystems. In human, functional deficiencies in those DNA repair subsystems are known to cause serious genetic diseases such as hereditary cancer, Cockayne, Bloom, Werner syndromes, and so on. *Thermus thermophilus* HB8 has all of the fundamental DNA repair enzymes (Fig. 1), and most of these show significant homology to human enzymes. It is therefore expected that biological and structural analyses of DNA repair subsystems in *T. thermophilus* HB8 will enhance our understanding of the universal mechanisms in DNA repair. In this presentation, we give a broad overview of whole DNA repair system in *T. thermophilus* HB8.

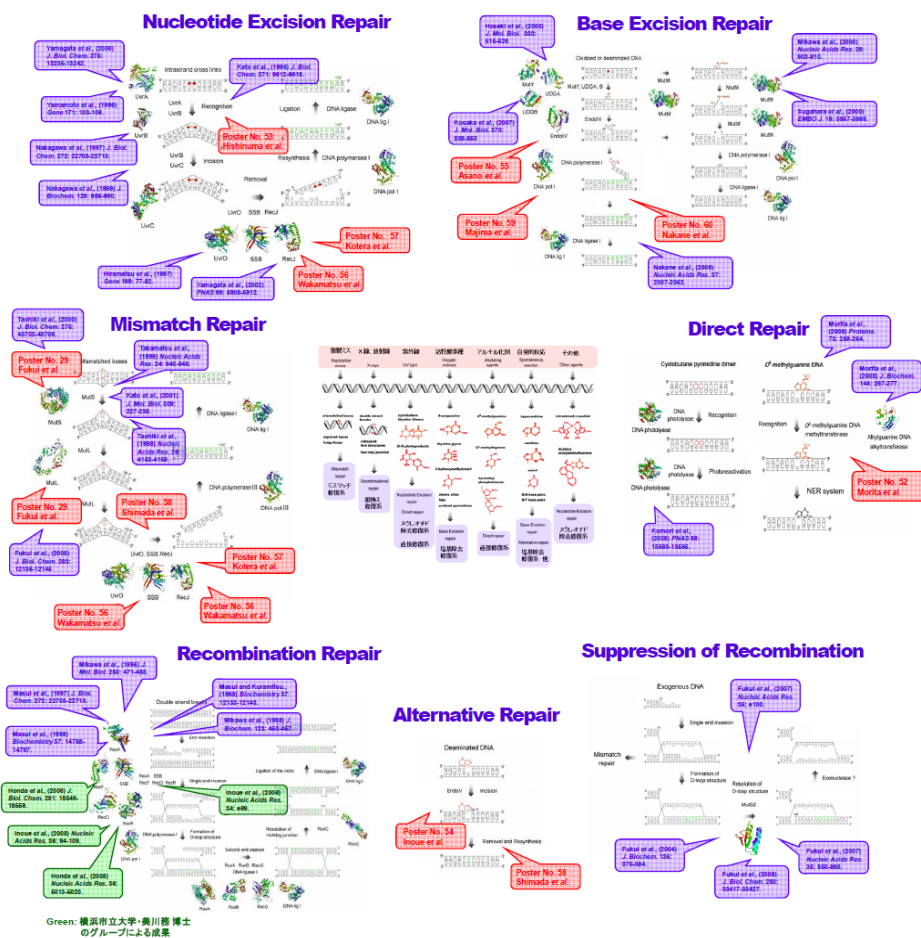


Fig. 1: Overview of whole DNA repair system in *T. thermophilus* HB8.