Abstract

DNA glycosylases are important enzymes responsible for the recognition and removal of base DNA damage. These DNA lesions are formed spontaneously or as an effect of environmental agents. NEIL3 (Endonuklease VIII – like 3) enzyme belongs to a Fpg/Nei family of glycosylases implicated in the DNA repair of oxidative bases, abasic sites. Recently, it has been shown that these enzymes are capable of removal of one type of interstrand crosslink by so unknown repair pathway. Unrepaired DNA crosslinks block DNA replication and may lead to cell death or sever chromosomal damage and later even cancer.

This thesis is focused on revealing molecular mechanisms of the interstrand DNA-DNA cross-link repair by NEIL3 glycosylase. (In Czech)