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Title (English) Distribution of DNA double-strand break repair proteins DNA-PK_{CS} and Mre11 after exposure to ionizing radiation		
Title (Swedish)		
Abstract DNA is occasionally damaged and efficient repair mechanisms are crucial for the cell. Here the proteins DNA-PK _{CS} and Mre11, involved in the non-homologous end joining process of double-strand break repair, were investigated. Double-strand breaks in DNA were induced with different kinds of radiation. γ -irradiation from a ⁶⁰ Co source was used as an example of low linear energy transfer (LET) radiation and cyclotron accelerated ¹⁴ N ⁷⁺ as an example of high LET radiation. The distribution of DNA-PK _{CS} and Mre11 after various times of repair was studied using a method based on immunohistochemistry. The results showed that Mre11 foci formation was affected by LET and dose, and that the DNA-PK inhibitor wortmannin also has an impact on Mre11 foci formation, suggesting activation of Mre11 by DNA-PK _{CS} . Further it seems like Mre11 foci sometimes are located in holes without DNA-PK _{CS} .		
Keywords DNA-PK _{CS} , Mre11, double-strand break, repair, ionizing radiation, LET, fluorescence		
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