

Scientific report of Marie Begusova for SMTP 29/11-17/12/2005 in CBM CNRS Orleans

Radiation damage to DNA-protein complexes

During the short scientific visit a specific DNA-protein complex (the hormone response element and the estrogen receptor) has been studied. The conditions (pH, ionic strength, incubation time and temperature) at which the complex between the protein and DNA is formed has been searched and tested using native retardation polyacrylamide gels. When the conditions have been set up, the stability of the complex under irradiation and the formation of the complex between irradiated DNA and nonirradiated protein or nonirradiated DNA and irradiated protein has been measured for the studied system. The benefit of this scientific stay are new experimental data about radiation action on the studied biological target.

The experiments have been performed using the biological material (DNA oligonucleotide, estradiol, estrogen receptor protein and other chemicals) purchased from the grant 33-04012 from the Ministry of Education, Youth and Sports CR, grant IAA1048103 and the research project K4055109 of the Academy of Sciences CR. The existing equipment, material and know-how of experimental techniques in host laboratory have been used.

The financial support awarded by COST office has been used for travel expenses between Prague and Orleans (travelling by car) and living expenses (accommodation and meals during 3 weeks visit). The total amount awarded is 1785 EUR.