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The influence of hyperthermia on bioreduction of nitroxides by B16 melanoma as studied by *in vitro* and *in vivo* ESR

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Heating either B16 melanoma cells or tumor growing in murine tails caused a decrease in the rate of nitroxide (NFR) reduction by about 40%. This effect did not last long in tumors. Two hours after hyperthermia the rate of reduction returned to the value observed in untreated tumors. Exposure to hypothermia resulted in the decline of cellular oxygen consumption by about 30%, but the growth rate of the same cells in culture was not affected. These results indicate that hypothermia belongs to the factors capable of modifying to a substantial degree the redox state of B16 melanoma cells under *in vitro* conditions in situ growing tumors.