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Complexity of EPR spectra of L5178Y-R lymphoma tumors growing in various murine hosts

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Presence or absence of EPR signals of some nitric oxide complexes in the EPR spectrum of a tumor tissue sample may provide information on the strength of the host anti-tumor defense. We supported this view by a detailed analysis of EPR spectra of L5178Y-R lymphoma growing in three murine strains: DBA/2 (natural, syngeneic, inbred host), Swiss (allogeneic, outbred host), and C57BL-6 (allogeneic, inbred host). Solid tumors from natural host revealed mainly weak EPR signals of 5-coordinate nitrosyl hemoglobin (HbNO) complexes, whereas allogeneic hosts were also able to induce relatively strong signals of 6-coordinate HbNO, and of nonheme-iron-nitrosyl complexes. We consider the intratumoral level of nitric oxide as the most important factor determining the type and proportion of the signals.