## EPR detection of pathologic events in mice

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The characteristic EPR signals of iron-nitrosyl complexes are observed during the cell mediated immune response to several different immunological stimuli. Formation of these signals is abrogated by concurrent administration of monomethyl-L-arginine (MLA), an inhibitor of nitric oxide (NO<sup>-</sup>) biosynthesis. The signals observed include both a heme-nitrosyl complex and a dinitrosyl-iron-dithiol complex (DNIC) of the general formula, Fe(RS)<sub>2</sub>(NO)<sub>2</sub>. EPR signal amplitude is enhanced by iron supplements both in animal models and in cultured cells. Thiol supplements also moderately increase EPR signal amplitude in cultured cells. Addition of diethyldithiocarbamate (DETC) induced formation of a characteristic EPR signal due to the mononitrosyl iron complex with DETC (MNIC-DETC). The MNIC-DETC signal was larger and more easily distinguished than either the heme-nitrosyl or the DNIC EPR signals and thus may be useful in detection of areas of immune system activation.