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Cytotoxic activity of the selected pyridinium salts against murine leukemia L1210

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Abstract:
The objective of this work was to evaluate the relationship between chemical reactivity of 3-substituted pyridinium salts and their cytotoxic properties against murine leukemia L1210. Chemical reactivity of pyridinium salts towards NADH oxidation following one-step hydride transfer depends strongly on their redox properties. The investigated reaction may reflect the ability of the salts to deplete NADH level in cells and to affect their metabolic functions. On the other hand, the cytotoxic activity against murine leukemia cells, expressed as ED_{50} values, varied strongly depending upon the compound used. The investigated salts showed also a diverse antileukemic effect in *in vivo* experiments as measured by the increase in the survival time of L1210 leukemia-bearing mice. These biological effects were correlated with equilibrium constants found for the reaction of pyridinium salts with NADH.

Key words:
pyridinium salts, NADH, cytotoxity, murine leukemia