

**THE INFLUENCE OF ISCADOR ON THE ACTIVITY OF SOME
HYDROLASES AND THE ULTRASTRUCTURE OF LIVER CELLS IN
MICE OF DIFFERENT AGE GROUPS**

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Iscador is the trade name of an extract of *Viscum album*, which is widely used in adjuvant cancer therapy. Iscador exerts potent immunomodulating and cytotoxic effects, although its mechanism of action is largely unknown. Mistletoe preparations contain a number of biologically active constituents, among which viscumines and viscotoxins show the highest therapeutical activity. A main effector molecule in mistletoe extracts is the β -galactoside-specific lectin ML-I, which catalytically inactivates the 60S ribosomal subunit leading to an inhibition of protein biosynthesis. The viscotoxins are toxic proteins related to the family of thionins. The most readily observed effect of thionins on cells is the disruption of membrane integrity.

It is suggested that changes in the lysosomal system of cells are good indicators of their adaptative abilities, and, therefore, the lysosomal compartment was the object of our investigations. The experiment was performed on 8-week-old and 22-month-old female mice. The mice serving as a control were injected intraperitoneally with 0.9% NaCl, while the mice from the experimental groups were injected with iscador in doses of 0.1 mg/kg b.w., 1 mg/kg b.w. and 2 mg/kg b.w. In the lysosomal fraction of the hepatocytes, the activity of the following hydrolases was determined: cathepsin D and L (E.C.3.4.23.5, E.C.3.4.22.15.), leucyl-aminopeptidase LAP (E.C.3.4.11.1.), arginyl-aminopeptidase sRAP (E.C.3.4.11.6.), acid phosphatase AcP (E.C.3.1.3.2.) and lysosomal esterase EL (E.C.3.1.1.2.).

A serious decrease in the degrading activity of the studied enzymes was found, probably resulting from the inhibition of protein biosynthesis. A markedly higher reactivity to encumbrance with iscador was observed in 22-month-old females. The changes in the morphological profile of the cell were correlated with the changes in enzyme activity.