Abstract

The described experimental model of clonal tumors induced through the insertional mutagenesis with MAV-2 proved to be a valid and rich source of information describing the process of transformation of normal into tumor cell. We have mapped more than 2000 individual clonal VISs from several hundreds of tumor tissue samples. We have analyzed five tumor types of different histology and tissue of origin along with their derivative tissue cultures. Furthermore, we have discovered the *industasis* phenomenon and described it during the course of the study.

The goal of my study was to uncover common reasons for neoplastic transformation of the cell. The results of my study led me to the paradoxical conclusion that the significance of genetic changes as the primary cause of induction of neoplastic transformation is being overestimated. Although studying the functions of individual genes and search for new tumor markers and therapeutical targets are still beneficial, I believe that the traditional perception of tumor formation as a function/result of mutation accumulation and selection is becoming a serious drawback in further investigations. These conclusions are further discussed in the last section of the presented Ph.D. thesis.