BEN XENOGRAFTING PHENOTYPE OF HUMAN MELANOMA CELLS: ROLE OF MACROPHAGE IN ITS EXPRESSION

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Human melanoma cell lines have been grafted into nude mice and characterized by their poorly or highly tumourigenic phenotypes. Previous studies have shown that the expression of the tumourigenic phenotype was determined by an active rejection mechanism. This mechanism was irradiation and silica sensitive, boosted by a local treatment with BCG or liposome encapsulated MDP, and resistant to anti-asialo-GM_1 serum treatment (Jacubovich et al, to be published). The role of host macrophages in the ability of melanoma cells to grow in nude mice was therefore investigated. Brucella Abortus activated mouse macrophages were remarkably lytic for the melanoma cells in vitro. Highly and poorly tumourigenic melanoma cell lines were equally sensitive to macrophage lysis. Melanoma cell lines were also found to be capable of activating in vivo the macrophages of nude mice, and the level of activation seemed to correlate with their xenografting phenotype. These results strongly suggest that the ability of human melanoma cell lines to grow in nude mice may result from the host macrophage-tumour cell interactions.

BER ABNORMALITIES OF CHROMOSOME 7 IN HUMAN MALIGNANT MELANOMA. RELATION WITH TUMOURIGENICITY IN NUDE MICE AND ARGININE METABOLISM.

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Cytogenetic studies of human malignant melanoma were performed using 16 fresh tumours and 41 cell lines. Chromosomes 1, 6 and 7 appeared to be the most frequently involved in structural abberrations. Multiple copies of 7q were observed in all melanoma tumours and cell lines (taking into account both the normal chromosomes and the identified segments of the abnormal ones), but in cell lines structural abnormalities of chromosome 7 were only observed with cell lines derived from metastases. The chromosomal equipment of melanoma cell lines was compared to their tumourigenicity in the nude mouse: highly tumourigenic cell lines were characterized by an increased number of copies of 7q and/or by the presence of homogeneously staining regions.

Since we have previously shown that arginase activity is involved in the expression of tumourigenicity of human melanoma cell lines in nude mice and since the gene of one of the enzymes involved in arginine biosynthesis is localized on chromosome 7, it can be hypothesized that the constant polysomy or abnormality of chromosome 7 plays a central role in the expression of malignancy of human melanoma cells.

BÍZ MR 140,000 GLYCOPROTEIN RELEASED INTO CULTURE MEDIA OF HUMAN TUMOUR CELL LINES

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In previous studies we showed that several human sarcoma and melanoma cell lines synthesize and secrete into the culture media an Mr 140,000 glycoprotein not detected in the corresponding normal human cells (Bízik et al., Eur. J. Cancer Clin. Oncol. in press). Rabbit antibodies were raised against Mr 140,000 protein purified from conditioned culture medium of HMB-2 melanoma cells. These antibodies recognize a protein present in large amounts in plasma specimens of normal individuals and cancer patients. The biochemical and immunochemical characterization of the membrane and plasma Mr 140,000 proteins has been evaluated.
