Methods of staining nuclear suspensions for bivariate Ki-67 antigen/DNA and bromodeoxyuridine/DNA analysis wer elaborated to minimize cell losses by the avoidance of fixation and washing, and could be performed only on 10^4 to 10^5 frozen cells/sample.

VACCINIA/POLYOMA RECOMBINANT VIRUS : A MODEL FOR TUMOUR IMMUNITY

R.Lathe(1), M.P.Kieny(2), I.Guizani(3) and P.Clertant(3)

(1)CNRS-LGME and U184-INSERM, 11 Rue Humann, Strasbourg; (2)Transgene SA, 11 Rue de Molsheim, Strasbourg; and (3)U273-INSERM, Parc Valrose, Nice, France

Many tumour cells present novel antigens. Tumour-specific antigens (TSA) have been exploited in the diagnosis and imaging of human carcinoma and the administration of anti-TSA antibodies has met some measure of success in the treatment of clinical disease. We have investigated, in a model system, the possibility that expression of TSA from a live recombinant virus might stimulate the host itself to mount an anti-tumour immune response.

Cells transformed by polyoma virus (PY) express three protein species from the integrated viral genome: LT, MT and ST. However, the exact relationship between the early PY protein species remains unclear. We thus constructed vaccinia virus recombinants separately expressing the three PY proteins.

Cell lines infected with the live recombinant viruses express high levels of the T proteins although cell surface fluorescence using anti-T serum was not detected. In all cases the recombinant T proteins exhibit biochemical activities associated with the authentic PY proteins.

Rats injected with syngeneic PY-transformed rat cells rapidly develop discrete tumours. Animals inoculated with the vaccinia recombinant expressing ST failed to reject transplanted tumour cells whereas animals previously vaccinated with recombinants expressing either MT or LT subsequently rejected their tumours. Further, animals already bearing tumours could be induced to reject their tumour cells by vaccination with the appropriate recombinant.

EFFECT OF GROWTH FACTORS ON FILM SARCOMA

S.M.Lavelle and M.Mac Iomhair

University College, Galway, Eire

Film sarcoma is provoked by unabsorbable films, e.g. nitrocellulose filters, implanted in rodents. Substances adsorbed to the film can influence tumour growth. The cell-type of origin of the tumour has not been unequivocally determined. Growth fctors obtained from different types of cell were tested on this system to see if the response varied with the origin of the growth factor. Five groups of 50 female BALB/c mice were implanted subcutaneously with 25 mm filters bearing fibroblast (0.1 microgram), epidermal (0.2 microgram), interleukin 2 (2 units), nerve growth factor (0.002 mg) and saline respectively, and observed weekly for tumour growth. The yield of tumour in each was comparable to the controls, with the exception of nerve and interleukin factors, where yield varied by 25%. Differences were not statistically significant.

Growth factor	Mice	Tumours	Total weeks of life	Mean weeks of life/ tumour
Interleukin 2	47	25	2194	88
Fibroblast	49	26	2554	98
Control	50	23	2615	114
Epidermal	50	21	2559	122
Nerve	46	16	2149	134

PURIFIED TUMOUR ANTIGENS FROM MURINE SARCOMAS

L.W.Law

National Cancer Institute, Bethesda, Maryland, U.S.A.

Two functionally similar TSTAs (Tumour Rejection Antigens) have been purified to chemical homogeneity from several chemically-induced murine sarcomas. p82, a unique antigen not previously described and p86 antigen, showing homology with heat shock proteins, are distinct entities but each is highly immunogenic and specific for the tumour of origin. Methods used for extraction and purification, biochemical properties, cloning of the gene encoding for p86, and immunogenic characteristics of these tumour antigens have been investigated and defined.

GROWTH FACTOR REQUIREMENTS OF NORMAL HUMAN MESOTHELIAL CELLS

J.F.Lechner(1), B.I.Gerwin(1), M.A.LaVeck(1), E.W.Gabrielson(2), R.R.Reddel(1), Y.Ke(1) and C.C.Harris(1)

(1)NCI, NIH, Bethesda, U.S.A; and (2)V.A.Medical Center, Baltimore, U.S.A.