History of TRAMP-C Lines

In order to establish a complete animal model in which to study approaches to prostate cancer several cell lines were established from the TRansgenic Adenocarcinoma of the Mouse Prostate (TRAMP) model. TRAMP is a transgenic line of C57BL/6 mice that develop histologic prostatic intraepithelial neoplasia by 8-12 weeks of age and progress to invasive adenocarcinoma with metastasis by 24-30 weeks of age. TRAMP was established using the minimal -426/+28 rat probasin promoter to target expression of the simian virus 40 large T antigen to prostatic epithelium. Three cell lines were established from a primary tumor in the prostate of a PB-Tag C57BL/6 (TRAMP) mouse and designated TRAMP-C1, TRAMP-C2 and TRAMP-C3. The cell lines do not grow in soft agar. In culture TRAMP-C1 and TRAMP-C2 has a similar doubling time of 24.4 hours and 25.4 hours, respectively. TRAMP-C3 has a doubling time of 37.0 hours. The cell lines are cytokeratin and E-cadherin positive by immunohistochemistry. The cell lines express androgen receptor (AR) and do not appear to have a mutated p53. Two of these cell lines, TRAMP-C1 and TRAMP-C2, are tumorigenic when grafted into syngeneic C57BL/6 hosts ($5x10^6$ cells), while TRAMP-C3 does not form tumors. In vivo TRAMP-C1 tumors had a doubling time of 271 hours (11.3 days) and TRAMP-C2 had a doubling time of 374.4 hours (15.6 days). Neither the cell lines grown in culture nor the tumors from the cell lines express SV 40 T antigen (Tag). Clonal cell lines from TRAMP-C1 and TRAMP-C2 have been established and are being characterized.

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