Epstein-Barr Negative Lymphoma-Derived Cell Lines

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Technology description

Summary

The National Institutes of Health developed multiple lymphoid cell lines that were derived from patients with undifferentiated lymphoma of Burkitt's or non-Burkitt's type (now known as Burkitt and Burkitt-like lymphoma). Burkitt lymphoma is a highly aggressive B-cell lymphoma, which accounts for approximately half of all non Hodgkin’ s lymphomas in children. It also occurs in adults, and in some patients with compromised immune systems, e.g., in patients infected with HIV. The cell lines have been used to advance our understanding of the molecular mechanisms of lymphomagenesis, and thus, can be used for the identification of molecular targets for drugs or other agents that can be developed for the treatment of lymphomas and other tumors.
The Epstein-Barr virus (EBV) has been implicated in the pathogenesis of Burkitt lymphoma, although geographical variations occur. Ten out of sixteen cell lines derived at the NIH were found to be negative for Epstein-Barr virus (EBV), consistent with the low frequency of EBV association in this tumor in the USA. The cell lines were screened for chromosomal aberrations and fifteen were found to contain reciprocal translocation between chromosome 8 and 14, t(8;14). These exchanges involve the chromosomal regions on which the c-myc oncogene (8q24.1) and the heavy-chain immunoglobulin genes (14q32) reside.

Application area

Screening tool to identify novel genes unique to or overexpressed in Burkitt lymphoma
Screen for compounds that kill tumor cells and represent potential therapeutic agents
Control in screening for novel genes expressed or overexpressed in EBV + Burkitt lymphoma
Control for therapeutic agents directed against EBV genes or genes induced by EBV

Institution

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