DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

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Dear Colleagues:

We have now obtained over one hundred isolates of HTLV-III[1,7] from patients with AIDS, ARC and healthy carriers. Three of them have been sequenced and a fourth one is in progress. Sequence analyses from these studies as well as the restriction maps of over 30 isolates revealed that there are significant differences between different HTLV-III isolates. For instance, basepair differences between the prototype of the AIDS retrovirus HTLV-III$_B$ (BH-10 clone) and other isolates (e.g. LAV-1, ARV, HTLV-III$_{MN}$ and HTLV-III$_{RF}$) represent about 1.5 to 7% of the total viral genome. The RF envelope differs from HTLV-III$_B$ (BH10 clone) by about 10% at the nucleotide level. The H9/HTLV-III$_B$ cell line that has been previously distributed, was infected with virus from several patients[2] and several proviruses have been partially or completely sequenced from it (3, 4).

This genome variation raises questions about: (1) the degree of immunologic cross reactivity between different isolates; (2) requirements for a vaccine that would be protective against different strains; (3) the biologic variability of different isolates relating to pathogenesis and virulence.

To facilitate research in this field, we can provide you with two additional well characterized isolates named HTLV-III$_{RF}$[2,5,6] and HTLV-III$_{MN}$[3].

HTLV-III$_{RF}$ was obtained in December 1983 by co-cultivation of the H4 clone (HT-cell line) with primary cultured lymphocytes from a 25 year old heterosexual Hispanic patient from Haiti. (This is the same period in which the prototype HTLV-III$_B$ was isolated.) Another isolate, HTLV-III$_{MN}$, was obtained in February 1984 from a lymph node of a child with ARC, who was the son of an IV drug abuser.[3] The material was provided by Dr. James Oleske. Before infection of H9 cells, the HTLV-III $_{MN}$ isolate had been transmitted repeatedly to normal PHA stimulated T-lymphocytes from healthy donors.

Molecular probes for H9/HTLV-III$_B$ (clone B10) and H9/HTLV-III$_{RF}$ will be made available by written request.

Finally, the clonal cell lines will be made available on the same basis as the HTLV-III$_B$ clones. Since we don't ship infected cells, you may make arrangements to pick up cells in Bethesda or obtain them from a colleague. In any case please let us know if you now want these isolates. Our goal is to have detailed genomic structure of about 30 of the over 100 isolates for studies designed to determine immunological variation.

Initial information is available in the following papers:

(1) Gallo, et al., Science, 4 May 1984, Vol. 224, pp. 500-503
(2) Popovic, et al., Science, 4 May 1984, Vol. 224, pp. 497-500.
(3) Shaw, et al., Science, 7 December 1984, Vol. 226, pp. 1165-1171
(4) Ratner, et al., Nature, 24 January 1985, pp. 277-284
(5) Hahn, et al., (submitted PNAS)
(6) Starcich, et al., (in preparation)
(7) Salahuddin, et al., (submitted PNAS)

Sincerely yours,

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