Cytotoxic T Cells Are Sensitised to 'Altered Self' in Lymphocytic Choriomeningitis Virus Infections

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Immune thymus-derived lymphocytes (T cells) in lymphocytic choriomeningitis (LCM) virus infections of mice are apparently sensitised to modified self-components. These self-structures involved are coded by the H-2 gene complex which determines the major transplantation antigens of mice. Evidence for this concept is derived both from *in vitro* assays of cytotoxic T cells and from *in vivo* studies of T-cell-mediated immunopathological process. Using F₁ and H-2 recombinant mice, it has been shown that the lytic interaction between immune T cells and virus-infected target cells (fibroblasts, macrophages or tumor cells) only occurs when both are compatible at either *H*.-2*K* or H-2D of at least one parent haplotype. Lack of or presence of additional incompatible *I*-i-2*K* or H-2D regions, M locus differences or shared public H-2 specificities are irrelevant. Compatibility of the immune response region is neither sufficient nor necessary for the lytic interaction to occur.

Competitive inhibition experiments *in vitro* and selective proliferation studies *in vivo* indicate that LCM-immune T cells are reactive to specifically altered cell surface structures coded for at (or near to) *H*-2*K* or H-2D. The nature of altered self is unknown as yet, but may reflect short or long-range modifications of H-2 antigens themselves, or some complex of viral and H-2 antigens.