IMMUNOMODULATION INDUCED BY SYNTHETIC PEPTIDES DERIVED FROM TUMOR-REJECTION ANTIGENS

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MAGE and Tyrosinase genes encode certain tumor-associated antigens recognized by cytotoxic T lymphocytes. We have synthesized peptides with sequences related to these antigens and fulfilled structural requirements enabling their binding to class II HLA molecules, expressed by accessory antigen presenting cells (APC), and their presentation to $CD4^+$ T lymphocytes. Some of these peptides, when incubated with human peripheral blood lymphocytes (PBL), triggered an immune stimulation which involved IL-1, IL-6, TNF-α, INF-γ and IL-2 release. We also detected a high level of cytotoxicity when peptide-activated PBLs were confronted with Daudi, K-562 and different melanoma cell lines. Our results suggest that these peptides could be a potential weapon against tumors expressing MAGE and tyrosinase genes, such as some melanomas and ovarian and colon carcinoma.