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Immunogenic Peptides

Technology Reference
R036

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AREAS OF APPLICATION

- Useful in cellular immunotherapies for acute myeloid leukemia
- Potential component of anti-AML vaccines

ADVANTAGES

- Specifically targets AML cells
- Multiple peptides are available
- HLA-matched T-cells may be sensitized in-vitro or ex-vivo using these peptides thereby minimizing issues related to in-vivo peptide degradation and the need to rely on potentially damaged patient T-cells and antigen presenting cells

THE TECHNOLOGY

This invention comprises a family of peptides derived from a CD33 epitope that is specifically bound by the HLA-A2.1 complex expressed by AML cells in approximately 50% of the population. These peptides are capable of stimulating a cytotoxic T-lymphocyte (CTL) response against acute myeloid leukemia (AML) cells. The use of dendritic cells and T2 cells as antigen presenting cells during the activation of the CTL's is described as are cytokine treatments (GM-CSF, INF-g, TNF-a) to stimulate HLA-A2.1 expression by AML cells. HLA-compatible anti-AML T-cell clones prepared according to this method are also contemplated.

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