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(54) Title: DETECTION, LOCALIZATION AND STAGING OF TUMORS USING LABELED ACTIVATED LYMPHOCYTES DIRECTED TO A TUMOR SPECIFIC EPITOPE

(57) Abstract: Disclosed are methods for detecting and localizing a cell-specific antigen in a mammal, such as a human subject, comprising exposing peripheral blood mononuclear cells (PBMCs) of the mammal to an immunogenic peptide epitope of the antigen, under conditions for antigen-specific activation of T lymphocytes in the PBMCs, thereby producing antigen-specific T lymphocytes that at least bind to the cell-specific antigen. Labeled antigen-specific T lymphocytes are administered to the mammal, typically without IL-2, either intraperitoneally or intravenously. The distribution of these cells in the mammal is determined by imaging, thereby detecting and localizing cell-specific antigen in the mammal. Exposing PBMCs to the immunogenic peptide typically involves a cell-free peptide preparation and interleukin-2 (IL-2), but no additional cells such as antigen presenting cells (APC) separately pulsed with antigen. The antigen-specific T lymphocytes typically are cytolytic for cells expressing the cell-specific antigen and may comprise CD4+, CD8+, and/or CD45RO+ memory T cells.