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(54) **Title:** METHOD FOR EX-VIVO PURGING IN AUTOLOGOUS TRANSPLANTATION

(57) **Abstract:** The present invention concerns a new method for ex-vivo purging of cells in autologous transplantation, wherein the sample of taken cells is treated with a sufficient amount of a multimeric form of the soluble portion of FasL to kill malignant cells without substantially affecting viability of cells to be transplanted. Autologous stem cell transplantation (ASCT) following high-dose chemotherapy with or without radiotherapy has become the standard therapy for the majority of patients with large-cell lymphomas, multiple myeloma, and refractory/recidivating Hodgkin's disease. Such therapy is nowadays also contemplated for selected patients with low-grade lymphomas (chronic lymphocytic leukemia, follicular lymphoma, mantle cell lymphoma) and for patients with acute myeloid leukemia (AML). Current treatments for cell purging include chemotherapy and antibody cocktails. These treatments are often toxic on stem cells and not efficient in eliminating cancer cells. Thus, there is an unmet medical need for cell purging in ASCT which this project will address.