Claims

1. Use of a population of allogeneic cells comprising WT1-specific allogeneic T cells in the manufacture of a medicament for the treatment of WT1 (Wilms Tumor 1)-positive multiple myeloma in a human patient in need thereof, wherein the population of allogeneic cells lacks substantial cytotoxicity in vitro toward antigen presenting cells that are not WT1 peptide-loaded or genetically engineered to express one or more WT1 peptides.
2. The use of claim 1, wherein the medicament is to be administered to the human patient after the human patient is administered a therapy for multiple myeloma that is different from said population of allogeneic cells.
3. Use of a population of allogeneic cells comprising WT1-specific allogeneic T cells in the manufacture of a medicament for the treatment of WT1-positive plasma cell leukemia in a human patient in need thereof, wherein the population of allogeneic cells lacks substantial cytotoxicity in vitro toward antigen presenting cells that are not WT1 peptide-loaded or genetically engineered to express one or more WT1 peptides.
4. The use of claim 3, wherein the medicament is to be administered after the human patient is administered a therapy for plasma cell leukemia that is different from said population of allogeneic cells.
5. The use of claim 2 or 4, wherein the therapy is an HSCT.
6. The use of claim 5, wherein the therapy is an autologous HSCT.
7. The use of claim 6, wherein a first dose of the medicament is to be administered to the human patient on the day of, or up to 12 weeks after, the autologous HSCT.
8. The use of claim 5, wherein the therapy is an allogeneic HSCT.
9. The use of claim 8, wherein the population of allogeneic cells is derived from a third-party donor that is different from the donor of the allogeneic HSCT.
10. The use of claim 8 or 9, wherein a first dose of medicament is to be administered to the human patient on the day of, or up to 12 weeks after, the allogeneic HSCT.
11. The use of any of claims 2 and 4-10, wherein the human patient has failed the therapy.
12. The use of claim 11, wherein the multiple myeloma or plasma cell leukemia is refractory to the therapy or relapses after the therapy.

13. The use of claim 1 or 3, wherein a first dose of the medicament is to be administered to the human patient within 12 weeks after the diagnosis of the multiple myeloma or plasma cell leukemia.
14. The use of any of claims 1-13, wherein administration of the medicament does not result in any GvHD in the human patient.
15. The use of any of claims 1-14, wherein the population of allogeneic cells is restricted by an HLA allele shared with the human patient.
16. The use of any of claims 1-15, wherein the medicament is to be administered to the human patient by infusion.
17. The use of any of claims 1-16, wherein the medicament comprises at least about 1×10^5 cells of the population of allogeneic cells per kilogram per dose.
18. The use of claim 17, wherein at least 2 doses of the medicament are to be administered to the human patient.
19. The use of claim 18, wherein the administration of the medicament comprises a washout period between two consecutive doses, wherein no dose of the medicament is to be administered during the washout period, and wherein the washout period is about 1, 2, 3, or 4 weeks.
20. The use of any of claims 1-19, wherein 3 doses of the medicament are to be administered to the human patient, each dose being in the range of 1×10^6 to 5×10^6 cells of the population of allogeneic cells per kilogram, and wherein said 3 doses are to be administered about 4 weeks, 3 weeks, 2 weeks, or 1 week apart from one another.
21. The use of any of claims 1-20, wherein the medicament is to be administered to the human patient prior to the administration to the human patient of a second population of allogeneic cells comprising WT1-specific allogeneic T cells, wherein the population of allogeneic cells is restricted by an HLA allele shared with the human patient, and wherein the second population of allogeneic cells is restricted by a different HLA allele shared with the human patient.