

CLAIMS

1. Use of an immunoconjugate that binds to CD37 in the manufacture of a medicament for the treatment of B-cell cancer in a patient wherein the immunoconjugate comprises:
 - a) a maytansinoid, wherein the maytansinoid is DM1, a non-cleavable linker, wherein the non-cleavable linker is SMCC; and
 - b) an antibody comprising the variable heavy chain sequence as set forth in SEQ ID NO:12 and the variable light chain sequence as set forth in SEQ ID NO:15;wherein the medicament is to be administered once every three weeks to the patient in need thereof, together with rituximab.
2. Use of an immunoconjugate that binds to CD37 and rituximab in the manufacture of a medicament for the treatment of B-cell cancer in a patient wherein the immunoconjugate comprises:
 - a) a maytansinoid, wherein the maytansinoid is DM1, a non-cleavable linker, wherein the non-cleavable linker is SMCC; and
 - b) an antibody comprising the variable heavy chain sequence as set forth in SEQ ID NO:12 and the variable light chain sequence as set forth in SEQ ID NO:15;wherein the medicament is to be administered once every three weeks to the patient in need thereof.
3. The use of claim 1 or claim 2, wherein the cancer is leukemia or lymphoma and/or wherein the cancer is selected from the group consisting of B-cell lymphomas including NHL, precursor B-cell lymphoblastic leukemia/lymphoma mature B-cell neoplasms, B-cell chronic lymphocytic leukemia (CLL)/small lymphocytic lymphoma (SLL), B-cell

prolymphocytic leukemia, lymphoplasmacytic lymphoma, mantle cell lymphoma (MCL), low-grade follicular lymphoma (FL), intermediate-grade FL, high-grade FL, cutaneous follicle center lymphoma, marginal zone B-cell lymphoma (MALT type, nodal and splenic type), hairy cell leukemia, diffuse large B-cell lymphoma (DLBCL), Burkitt's lymphoma, plasmacytoma, plasma cell myeloma, post-transplant lymphoproliferative disorder, Waldenstrom's macroglobulinemia, acute lymphoblastic leukemia (ALL), and anaplastic

large-cell lymphoma (ALCL),

preferably wherein the cancer is NHL,

more preferably wherein the NHL is relapsed or refractory NHL, and/or wherein the NHL is mantle cell lymphoma (MCL), chronic lymphocytic leukemia (CLL), or follicular lymphoma, or

wherein the DLBCL is germinal center B-cell (GCB) DLBCL or activated B-cell (ABC) DLBCL,

and/or wherein the cancer overexpresses MYC and/or BCL2.

4. The use of claim 1 or claim 3, wherein the medicament and the rituximab are to be administered:
 - a) simultaneously;
 - b) separately; or
 - c) sequentially.
5. The use of any one of claims 1-4, wherein the medicament is to be administered on day 1 of a 21-day cycle.
6. The use of any one of claims 1-5, wherein the rituximab is to be administered at a dose of 375 mg/m^2 , preferably, wherein the rituximab is to be administered on week 1, day 1 of a three week cycle.
7. The use of any one of claims 1-6, wherein the medicament is to be administered with a corticosteroid.
8. The use of claim 7, wherein the corticosteroid is selected from the group consisting of prednisone, prednisolone, methylprednisolone, beclomethasone, betamethasone, dexamethasone, fludrocortisone, hydrocortisone, and triamcinolone.
9. The use of claim 8, wherein the corticosteroid is to be administered prior to or during the administration of the medicament, preferably, wherein the corticosteroid is to be administered from 30 minutes to 60 minutes prior to the administration of the medicament, and/or wherein the corticosteroid is to be administered at least one additional time from one day to four days after administration of the medicament, and/or wherein the corticosteroid is to be administered after the administration of the medicament.

10. The use of any one of claims 1-9, wherein the medicament is to be administered with a growth factor.
11. The use of claim 10, wherein the growth factor is selected from the group consisting of granulocyte colony-stimulating factor (G-CSF), granulocyte-macrophage colony-stimulating factor (GM-CSF), macrophage colony-stimulating factor (M-CSF), filgrastim, and pegfilgrastim.
12. The use of claim 11, wherein the growth factor is to be administered at least once from day one to day twelve after the administration of the medicament.
13. The use of claim 1 or claim 2, wherein the rituximab is to be administered at a dose of 375 mg/m² on week 1, day 1 of a three week schedule.