after administration of radioimmunoconjugate. In yet another aspect, the present invention refers to use of a radioimmunoconjugate comprising, a monoclonal antibody targeting CD37, an optional linker, and a radionuclide, in the manufacture of a medicament for treating a B-cell malignancy selected from the group consisting of non-Hodgkin lymphoma, acute Lymphoblastic Leukemia, and chronic lymphocytic leukemia, the use comprising a radioimmunoconjugate, to be administered, comprising, a monoclonal antibody targeting CD37, an optional linker, a radionuclide, and an anti-CD20 antibody to be administered, wherein the radioimmunoconjugate upregulates antigen expression of an antigen expressed on the surface of B-cell cancer cells, the upregulated antigen is CD20, the upregulation is followed by anti-CD20 antibody therapy to be administered in a single administration or in a repeated administration pattern, and wherein anti-CD20 antibody is to be administered 0-15 days after administration of radioimmunoconjugate.

Thus, one example of the present disclosure describes a radioimmunoconjugate comprising a monoclonal antibody, an optional linker, and a radionuclide, for use in upregulating antigen expression of one or more antigens.

In one example of the present disclosure are the one or more upregulated antigens expressed on the surface of B-cell cancer cells.

In one aspect, the present invention refers to use of a radioimmunoconjugate comprising, a monoclonal antibody targeting CD37, an optional linker, and a radionuclide, in the manufacture of a medicament for treating a B-cell malignancy selected from the group consisting of non-Hodgkin lymphoma, acute Lymphoblastic Leukemia, and chronic lymphocytic leukemia, the use comprising a radioimmunoconjugate, to be administered, comprising, a monoclonal antibody targeting CD37, an optional linker, a radionuclide, and an anti-CD20 antibody to be administered, wherein the radioimmunoconjugate upregulates antigen expression of an antigen expressed on the surface of B-cell cancer cells, the upregulated antigen is CD20, the upregulation is followed by anti-CD20 antibody therapy to be administered in a single administration or in a repeated administration pattern, and wherein anti-CD20 antibody is to be administered at least one day to 15 days after administration of radioimmunoconjugate, wherein the radioimmunoconjugate is ^{177}Lu-labeled HH1 antibody, and wherein the anti-CD20 antibody is rituximab.

Claims

1. Use of a radioimmunoconjugate comprising, a monoclonal antibody targeting CD37, an optional linker, and a radionuclide, in the manufacture of a medicament for treating a B-cell malignancy selected from the group consisting of non-Hodgkin lymphoma, acute Lymphoblastic Leukemia, and chronic lymphocytic leukemia, the use comprising:

- a radioimmunoconjugate, to be administered, comprising,

- a monoclonal antibody targeting CD37,

- an optional linker,

- a radionuclide, and

- an anti-CD20 antibody to be administered, wherein

the radioimmunoconjugate upregulates antigen expression of an antigen expressed on the surface of B-cell cancer cells, the upregulated antigen is CD20, the upregulation is followed by anti-CD20 antibody therapy to be administered in a single administration or in a repeated administration pattern, and wherein anti-CD20 antibody is to be administered at least one day to 15 days after administration of radioimmunoconjugate,

wherein the radioimmunoconjugate is ^{177}Lu-labeled HH1 antibody, and

wherein the anti-CD20 antibody is rituximab.

2. The use of the radioimmunoconjugate according to claim 1, wherein the upregulation is done prior to immunotherapy or immunoconjugate therapy in a patient suffering from cancer.

3. The use of the radioimmunoconjugate according to claim 1 or 2, wherein the patient is suffering from a B-cell malignancy selected from the group consisting of non-Hodgkin lymphoma and chronic lymphocytic leukemia.

4. The use of the radioimmunoconjugate according to any one of claims 1-3, wherein the linker is a chelating linker selected from the group consisting of p-SCN-bn-DOTA, DOTA-NHS-ester, p-SCN-Bn-DTPA and CHX-A''-DTPA.

5. The use of the radioimmunoconjugate according to any one of claims 1-4, wherein the radioimmunoconjugate is formulated as a pharmaceutical composition.

6. The use of the radioimmunoconjugate according to any one of claims 1-5, wherein the pharmaceutical composition comprises one or more pharmaceutically acceptable carriers or adjuvants.