Claims:

1. A method for predicting whether a patient will be a long-term survivor on treatment of a cancer associated with infection by a virus by adoptive cell transfer (ACT) of cytotoxic T lymphocytes (CTLs) specific for the virus, comprising:

(i) determining in a blood-derived sample obtained from the patient: a) the level of IFNγ, b) the level of nucleic acid of the virus, and c) the level of CXCL10 and/or CCL20, and;

(ii) based on the analysis of step (i), predicting whether the patient will be a long-term survivor on treatment of the cancer by ACT of CTLs specific for the virus.

2. Use of cytotoxic T lymphocytes (CTLs) specific for a virus for the manufacture of a medicament for use in treating a cancer associated with infection by a virus in a patient by adoptive cell transfer (ACT) of cytotoxic T lymphocytes (CTLs) specific for the virus, the method comprising:

(i) determining in a blood-derived sample obtained from the patient: a) the level of IFNγ, b) the level of nucleic acid of the virus, and c) the level of CXCL10 and/or CCL20;

(ii) based on the analysis of step (i), predicting long-term survival of the patient by treatment of the cancer by ACT of CTLs specific for the virus; and

(iii) preparing one or more doses of CTLs specific for the virus to be administered to the patient.

3. A method of selecting a patient for treatment of a cancer associated with infection by a virus by adoptive cell transfer (ACT) of cytotoxic T lymphocytes (CTLs) specific for the virus, comprising:

(i) determining in a blood-derived sample obtained from the patient: a) the level of IFNγ, b) the level of nucleic acid of the virus, and c) the level of CXCL10 and/or CCL20;

(ii) based on the analysis of step (i), predicting whether the patient will be a long-term survivor on treatment of the cancer by ACT of CTLs specific for the virus; and

(iii) selecting a patient predicted to be a long-term survivor on treatment of the cancer by ACT of CTLs specific for the virus for treatment by ACT of CTLs specific for the virus.

4. The method according to claim 1 or claim 3, wherein the patient has previously been administered with an initial dose of CTLs specific for the virus.

5. The method according to claim 4, wherein the sample was obtained from the patient within a period of 4 weeks after administration of the initial dose of CTLs specific for the virus to the patient.

6. The use according to claim 2, wherein the sample is obtained from a patient previously administered with an initial dose of CTLs specific for the virus to the patient.

7. The use according to claim 6, wherein the sample is obtained from the patient within a period of 4 weeks after the initial dose of CTLs specific for the virus was administered to the patient.

8. The method or the use according to any one of claims 1 to 7, wherein analysis of step (i) comprises:

(1) determining the ratio of the level of IFNγ to the level of CXCL10 and/or CCL20, and

(2) determining the ratio of the level of nucleic acid of the virus to the level of IFNγ.

9. The method or the use according to claim 8, wherein analysis of step (i) additionally comprises:

(3) determining the relationship between the ratio of (1) and the ratio of (2).

10. The method or the use according to any one of claims 1 to 9, wherein the cancer is an Epstein-Barr Virus (EBV)-positive cancer, and wherein the CTLs are Epstein-Barr Virus (EBV)-specific CTLs.

11. The method or the use according to any one of claims 1 to 10, wherein the cancer is selected from EBV-positive nasopharyngeal carcinoma (NPC), EBV-positive liver cancer, EBV-positive lung cancer, and EBV-positive gastric cancer.

12. The method or the use according to claim 11, wherein the EBV-positive cancer is EBV-positive NPC.