

What is claimed is:

1. A pool of immunogenic peptides comprising HLA class I and/or class II-restricted JCV peptide epitopes capable of inducing proliferation of peptide-specific T cells, wherein the peptide pool comprises at least three of the epitope amino acid sequences set forth in SEQ ID NOs 1-21, or combinations thereof.
2. An *in vitro* method of expanding JC virus-specific T cells for adoptive immunotherapy, the method comprising:
 - (i) contacting one or more cells comprising peripheral blood mononuclear cells (PBMCs) isolated from a subject with \ the pool of immunogenic peptides of claim 1 and
 - (ii) culturing the one or more cells under conditions such that JC virus-specific T-cells are expanded from said one or more cells.
3. The method of claim 2, wherein the cells are cultured in the presence of IL-2 at a concentration of about 120 IU/ml.
4. The method of claim 2 or claim 3, wherein the one or more cells isolated from the subject comprises PBMCs from a healthy donor.
5. The method of claim 4, wherein the one or more cells isolated from the subject comprises PBMCs from an immunocompromised donor.
6. The use of the T cells of any one of claims 2 to 5, in the manufacture of a medicament for treating or preventing a JCV infection in a subject.
7. The use of the T cells of any one of claims 2 to 5, in the manufacture of a medicament for treating or preventing a JCV polyomavirus associated cancer in a subject.
8. A population of expanded cytotoxic T lymphocytes (CTLs) prepared by the method of any one of claims 2 to 5.
9. The use of the population of CTLs of claim 8, in the manufacture of a medicament for treating or preventing JCV infection in a subject.
10. The use of claim 9, wherein the subject is suffering from at least one of JCV granule cell layer neuronopathy (JCV GCN), JCV encephalopathy (JCVE), JCV meningitis (JCV M), or progressive multifocal leukoencephalopathy (PML).
11. The use of the population of CTLs of claim 8, in the manufacture of a medicament for treating or preventing JCV polyomavirus associated cancer in a subject.

12. The use of any one of claims 9-11, wherein the CTLs administered to the subject are autologous.
13. The use of any one of claims 9-11, wherein the CTLs administered to the subject are not autologous.
14. An *in vitro* method of inducing proliferation of polyomavirus-specific CTLs, comprising contacting the CTLs with antigen-presenting cells (APCs) that present three or more polyomavirus peptides comprising any one of the epitopes selected from any one of SEQ ID NOs: 1-21.
15. The method of claim 14, wherein the polyomavirus-specific CTLs are contacted by the APCs in the presence of one or more cytokines.
16. The method of claim 14 or claim 15, wherein the APCs comprise B cells, antigen-present T cells, dendritic cells and/ or K562 cells.
17. The method of any one of claims 14-16, wherein the polyomavirus-specific CTLs are from a sample of PBMCs.
18. The method of any one of claims 14-17, wherein the polyomavirus-specific CTLs are stored in a CTL library or bank.
19. The method of any one of claims 14-18, wherein the polyomavirus-specific CTLs exhibit a polyfunctional immune effector profile.