CLAIMS

1. An isolated protein comprising a polyomavirus epitope having the sequence set forth in SEQ ID No. 1 and one or more epitopes from at least one or more non-polyomaviruses selected from Epstein Barr virus (EBV), cytomegalovirus (CMV), and adenovirus (ADV).

2. The isolated protein of claim 1, wherein the peptide comprises the sequence set forth in SEQ ID No. 1 and a plurality of epitopes from each of EBV, CMV, and ADV.

3. The isolated protein of claims 1 or 2, further comprising an intervening amino acid sequence between at least two of the plurality of epitopes.

4. The isolated protein of claim 1, wherein the one or more non-polyomavirus epitopes have HLA class I restrictions to HLA-Al, -A2, -A3, -A11, -A23, -A24, -A26, -A29, - A30, -B7, -B8, -B27, - B35, -B38, -B40, - B41, -B44, -B51, -B56, -B57 or -B58.

5. The isolated protein of claim 1, wherein the one or more non-polyomavirus epitopes have HLA class II restrictions to HLA-DP, -DM, -DOA, -DOB, -DQ, or -DR.

6. The isolated protein of any one of claims 1 to 5, wherein the isolated protein comprises epitope amino acid sequences set forth in SEQ ID NOS: 5, 6, 36, 41 and 42.

7. The isolated protein of any one of claims 1 to 6, wherein the isolated protein further comprises one or more epitopes from Merkel cell virus (MCV).

8. An isolated nucleic acid encoding the isolated protein of any preceding claim.

9. An expression construct comprising the isolated nucleic acid of claim 8.

10. A pharmaceutical composition comprising the isolated protein of any one of claims 1 to 9 and a pharmaceutically acceptable carrier.

11. A vaccine composition comprising the isolated protein of any one of claims 1 to 10 and a pharmaceutically acceptable carrier.

12. An *in-vitro* method of inducing proliferation of polyomavirus-specific cytotoxic T cells (CTLs), comprising contacting CTLs with antigen presenting cells (APCs) that present a peptide comprising a polyomavirus epitope having the sequence set forth in SEQ ID No. 1 and one or more epitopes from one or more non-polyomaviruses selected from Epstein Barr virus (EBV), cytomegalovirus (CMV), and adenovirus (ADV),

wherein the polyomavirus epitope is from a BK virus.