

CLAIMS

What is claimed is:

1. An injectable therapeutic anticancer pharmaceutical composition, wherein said composition is a mixture comprising:

at least one purified viral L1 protein wherein the at least one purified viral L1 is a human papilloma virus (HPV) L1 protein ~~or fragment thereof~~ and is free of host-cell and/or non-L1 HPV peptide;

a second active pharmaceutical ingredient selected from ~~the group consisting of~~ a local anesthetic, sirolimus, ingenol mebutate, and T4 endonuclease, ~~and a cyclooxygenase inhibitor~~; and

a pharmaceutically-acceptable carrier.

~~2. The pharmaceutical composition of claim 1, wherein the cyclooxygenase inhibitor is diclofenac.~~

~~3.2.~~ The pharmaceutical composition of claim 1, comprising a purified viral L1 protein ~~or fragment thereof~~ from each of HPV types 6, 11, 16 and 18.

~~4.3.~~ The pharmaceutical composition of claim 1, comprising a purified viral L1 ~~protein or fragment thereof~~ from each of HPV types 16, 18, 31, 33, 45, 52 and 58.

~~5.4.~~ The pharmaceutical composition of claim 1, wherein the at least one purified viral L1 protein ~~or fragment thereof~~ is present in a virus-like particle (VLP).

~~6.5.~~ The pharmaceutical composition of claim 1, wherein the at least one purified viral L1 protein and the second active pharmaceutical ingredient and pharmaceutically acceptable carrier are in a unitary dosage form.

7.6. The pharmaceutical composition of claim 1, wherein the local anesthetic is lidocaine.

7. Use of:

at least one purified viral L1 protein, wherein the at least one purified viral L1 is a human papilloma virus (HPV) L1 protein and is free of host-cell and/or non-L1 HPV peptide,

a second active pharmaceutical ingredient selected from the group consisting of a local anesthetic, sirolimus, ingenol mebutate and T4 endonuclease; and

a pharmaceutically-acceptable carrier,

in the manufacture of a medicament for the treatment of cancer, wherein the medicament is to be administered by injection.

8. The use of claim 7, wherein the medicament comprises a purified viral L1 protein from each of HPV types 6, 11, 16 and 18.

9. The use of claim 7, wherein the medicament comprises a purified viral L1 protein from each of HPV types 16, 18, 31, 33, 45, 52 and 58.

10. The use of any one of claims 7 to 9, wherein the at least one purified viral L1 protein is present in a virus-like particle (VLP).

11. The use of any one of claims 7 to 10, wherein the at least one purified viral L1 protein and the second active pharmaceutical ingredient and pharmaceutically acceptable carrier are in a unitary dosage form.

12. The use of any one of claims 7 to 11, wherein the local anesthetic is lidocaine.
