CLAIMS

1. VLP derived from human polyoma virus loaded with a drug for use in a therapeutic or diagnostic procedure as a drug delivery system for transporting said drug into the CNS, in particular of living humans.

2. VLP according to claim 1, whereas the VLP is derived from JCV.

3. VLP according to claim 1 or 2, whereas the drug delivery system crosses the blood-brain barrier to enter the CNS together with the drug encapsulated by the VLP.

4. VLP according to at least one of the above claims, **characterized in** that drug delivery system crosses the physiologically intact blood-brain barrier.

5. VLP according to at least one of the above claims, **characterized in** that the VLP is composed of VP1 proteins of JC virus.

6. VLP in accordance with at least one of the claims, **characterized in** that the VLP is prepared for intravenous administration.

7. VLP according to at least one of the above claims, **characterized in** that the VP1 comprises an amino acid sequence which is at least 80% identical to the amino acid sequence according to SEQ ID NO: 1 over its entire length and/or wherein the VP2 comprises an amino acid sequence which is at least 80% identical to the amino acid sequence according to SEQ ID NO: 3 over its entire length.

8. VLP according to at least one of the above claims, **characterized in** that the drug is selected from the group consisting of a cytotoxic agent, a detectable agent such as a radionuclide, a protein, a peptide and a nucleic acid, in particular selected from the group consisting of nucleic acids encoding a desired protein such as mRNA, cDNA, a plasmid or vector; inhibitory nucleic acids such as siRNA or miRNA; and nucleic acids having catalytic activity such as a ribozyme.

9. Pharmaceutical composition comprising a VLP according to any of the above claims wherein at least 1%, preferably at least 15%, more preferably at least 50%, in particular preferred at least 95% of the total amount of drug substance (cargo) is fully encapsulated in the hull of the VLP.

10. Pharmaceutical composition according to claim 9 wherein the VLP are non-aggregated.

CLAIMS

1. An invention not claimed in any divisional application.