Docket #: S07-204

Size-dependent Rupture of Enveloped Viruses using Amphipathic Alpha-helical Peptides

Stanford researchers have discovered that amphipathic α-helical (AH) peptides that share an amino acid sequence homology to the N-terminus of HCV NS5A can rupture lipid vesicles in a size-dependent manner. Importantly, the range of vesicle sizes subject to rupture by the AH peptides encompasses the range of vesicle sizes of a significant number of enveloped viruses, rendering this approach useful to destroy viruses ex-vivo, e.g. for prevention and disinfection, as well as in-vivo in the infected individual.

Please see also the related technology "A Novel Process to Create Lipid Bilayer Membranes on Gold & TiO2 Solid Supports" (Stanford Docket S05-115).

Applications

- **Antiviral agent** — ex-vivo and in-vivo eradication of enveloped viruses such as:
  - retroviruses
  - herpes viruses
  - flavi viruses

Advantages

- **Efficient** — this invention provides for a new way to efficiently remove a large number of viruses from blood donations.
- **Broad spectrum** — this invention provides for a novel type of broad-spectrum virucidal agent.

Publications

- Cho NJ, Cho SJ, Cheong KH, Glenn JS, Frank CW. Employing an amphipathic viral peptide to create a lipid bilayer on Au and TiO2. Journal of the American Chemical Society. 2007 Aug 22;129(33):10050-1.

Patents

- Published Application: WO2009014615
- Published Application: 20090105151
- Issued: 8,728,793 (USA)

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