Novel System for Effective Delivery to the Brain

**OCR Number:** OCR 6552

**Description:**

**Novel System for Delivery of Therapeutic & Imaging Agents Across the Blood-Brain Barrier**

- A novel composition for effective, non-invasive and systemic delivery of therapeutic and imaging agents to brain tumors.

- This system contains three components: a tumor targeting moiety; a BBB opener; and a nanomaterial. It has demonstrated unprecedented efficiency in breaking the BBB to allow delivery of pharmacologically significant quantities of therapeutic and imaging agents to brain cancer (Figure).

- The applications of this technology can be extended to the treatment of other neurological diseases, including brain injury and stroke.

![Nanoparticles carrying imaging agents demonstrate efficient penetration to tumors or ischemic regions in the brain after intravenous administration.](image1)

**A:** Bio-distribution of non-engineered (left) and engineered (right) nanoparticles in tumor-bearing mice.

**B:** Distribution of nanoparticles (right, identified by fluorescence) in the ischemic region (left, identified by TTC staining) in stroke mice.

**PI:** Jiangbing Zhou

**Licensing Contact:** Hong Peng

hong.peng@yale.edu