



SCHOOL OF MEDICINE

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Dear Zhao Chen,

For the past fifty years, major research efforts have been committed to search for that *magic bullet* to target, detect, and treat diseases such as cancer and cardiovascular disease. The *bullets* have been identified as *nano*. Nanomaterials are ideal candidates for tissue-specific imaging and targeted drug delivery. They can carry large payloads of drugs and imaging reagents, and they can be conjugated with specific targeting ligands. Each platform has advantages and disadvantages.

Our research focuses on nanomaterials derived from plant viruses. Viruses have evolved over millions of years, their function is to carry cargos to specific cells and tissues, thus viral capsids are ideal candidates for the development of a medical platform technology. *Here, we describe the procedures for plant VNP propagation, purification, characterization, and bioconjugation. Finally, we show the application of VNPs for tumor homing and imaging using a mouse xenograft model and fluorescence imaging.*

We feel that this work would be of interest not only to the specialist but also to chemists, engineers, and materials scientists with interest in nanoparticle functionalization. We hope that you will consider our manuscript for publication in JoVE.

Yours sincerely

Nicole F. Steinmetz, Ph.D.
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