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**Engineering A11 Minibody-Conjugated, Polypeptide-Based Gold Nanoshells
For Prostate Stem Cell Antigen (PSCA)–Targeted Photothermal Therapy**

CHICAGO – Currently, there is no curative treatment for advanced metastatic prostate cancer and options such as chemotherapy are often nonspecific, harming healthy cells and resulting in severe side effects. A new report in the February 2017 issue of *SLAS Technology* describes a system that combines an engineered prostate cancer–specific targeting ligand, the A11 minibody, with a novel photothermal therapy agent, polypeptide-based gold nanoshells, which generate heat in response to near-infrared light.

Attaching targeting ligands to agents used in anticancer therapies has been shown to improve efficacy and reduce nonspecific toxicity. Furthermore, the use of triggered therapies can enable spatial and temporal control throughout the treatment. The technology in this report demonstrates that A11 minibodies on gold nanoshells bind to the prostate stem cell antigen that is overexpressed on the surface of metastatic prostate cancer cells. Compared to non-conjugated gold nanoshells, the A11 minibody-conjugated gold nanoshell exhibits significant laser-induced, localized killing of prostate cancer cells *in vitro*. In addition, an improved heat transfer mathematical model is able to generate reasonable predictions for this particular study.

The experimental and theoretical results of this investigation demonstrate the potential of these novel minibody-conjugated gold nanoshells for metastatic prostate cancer therapy.

Visit *SLAS Technology* Online at <http://journals.sagepub.com/toc/jlac/22/1> to read “**Engineering A11 Minibody-Conjugated, Polypeptide-Based Gold Nanoshells for Prostate Stem Cell Antigen (PSCA)–Targeted Photothermal Therapy.**” *SLAS Technology* is one of two MEDLINE-indexed scientific journals published by SLAS. For more information about SLAS and its journals, visit www.slas.org/publications/scientific-journals.

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SLAS Discovery: 2015 Impact Factor 2.218. Editor-in-Chief Robert M. Campbell, Ph.D., Eli Lilly and Company, Indianapolis, IN (USA). *SLAS Discovery (Advancing Life Sciences R&D)* was previously published (1996-2016) as the *Journal of Biomolecular Screening (JBS)*.

SLAS Technology: 2015 Impact Factor 1.297. Editor-in-Chief Edward Kai-Hua Chow, Ph.D., National University of Singapore (Singapore). *SLAS Technology (Translating Life Sciences Innovation)* was previously published (1996-2016) as the *Journal of Laboratory Automation (JALA)*.