

Press Release – Embargoed until midday Tuesday 3rd June, 2008

GUNS AND PATCHES - NEEDLE FREE AT LAST!

Needle-free gene, drug and vaccine delivery

Professor Mark Kendall from Queensland has won the prestigious AMGEN Medical Researcher Award 2008.

Marrying biological and engineering spheres!

Mark Kendall from the Australian Institute for Bioengineering and Nanotechnology, Diamantina Institute for Cancer, Immunology and Metabolic Medicine, University of Queensland is developing products for translational research in vaccine delivery technology.

His technology has the capacity to replace needle and syringe delivery of vaccines and use smaller doses than conventional syringe delivery.

The **Gene Gun** is a DNA vaccine approach not reliant on carrier viruses.

Hand-held Gene Guns with rocket nozzles accelerate DNA-coated micro-particles to penetrate human skin targeting cells and treating major diseases.

Nanopatches, delivering both conventional and DNA vaccines - designed to accurately, efficiently and safely deliver large and small molecules not just to specific cells but to organelles (a specialized part of a cell that has its own function) inside them.

The Nanopatch has thousands of tiny projections – invisible to the human eye – dry-coated in biomolecules. When the patch is placed against the skin, these projections push through the outer skin layer and deliver the biomolecules precisely to the target cells!!

Professor Kendall said, " Our research is focused on practical needle-free devices accurately targeting key skin cells – with the goal of clinical application of better vaccines in both the developed and developing world. To help optimize our delivery devices, we are performing fundamental research into the mechanical and biological properties of the skin, together with vaccine delivery studies in key disease areas".

This is the 9th national Amgen Medical Researcher Award, presented annually during ASMR Medical Research Week®, in which Amgen Australia Pty. Ltd. recognises an exceptional individual early in their medical research career.

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