In the news

THERAPEUTIC CANCER
VACCINE APPROVED

The world's first therapeutic cancer vaccine has been approved by the US Food and Drug Administration (FDA), heralding a major breakthrough in the struggle to harness the immune system to fight tumours.

The new vaccine, Provenge (sipuleucel-T), will be used to treat men with advanced prostate cancer and is tailored to the individual: each patient's immune cells are isolated and primed against tumour-specific antigens *in vitro* before being infused back into the patient (*New York Times*, 30 Apr 2010). Although it is not a cure for cancer, clinical trials showed that patients receiving Provenge lived on average four months longer than those receiving a placebo. Similar results can be achieved by chemotherapy, but Provenge causes fewer side effects (*Seattle Times*, 5 May 2010). Dr Len Lichtenfield of the American Cancer Society hailed the development of the vaccine as "exciting because it does represent a proof of concept" (*Reuters*, 29 Apr 2010).

Share prices of Dendreon, the Seattle-based developer of Provenge, have soared and it is thought that the vaccine's approval could prompt fresh investment and research by other companies (*Financial Times*, 11 Jan 2010). "Within five to ten years, immunotherapies will be a big part of cancer therapy in general" predicted Dr Phil Kantoff, an oncologist involved in the Provenge studies.

However, "there are still big questions to answer" cautioned John Neat, Chief Executive of The Prostate Cancer Charity, UK, adding that "there are currently no laboratories in Europe equipped to undertake this treatment" (*BBC News*, 30 Apr 2010). Cost could also prohibit widespread use of the vaccine: at almost US\$100,000 per treatment, Provenge — according to Professor Graham Le Gros of Wellington's Malaghan Institute of Medical Research, NZ — is "way too expensive for worldwide consumption" (*New Zealand Herald*, 4 May 2010).

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