

Stocks to Watch on Cancer Vaccines' Huge Financial Potential

Tests for several new therapeutic vaccines are well underway

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In a 2009 article in *Time* magazine, developing a vaccine against cancer was likened to creating the biological version of a stealth weapon encased in a smart bomb equipped with a guided missile. A challenge, to say the least. Yet, despite years of disappointment with efforts to get the body's own immune system to attack tumors and fight diseases, it appears that we are on the cusp of a new era in vaccines.

Vaccines, of course, are not novel. For years they've been used to provide lasting protection against infection. Therapeutic vaccines are different. They're intended to actually combat disease once it appears in the body. In April 2010, the FDA approved the first therapeutic vaccine, **Dendreon's** (NASDAQ:[DNDN](#)) Provenge, which was shown to extend life about four months in men with a certain type of metastatic prostate cancer. The vaccine provokes an immune response against a particular antigen, or identifying molecule, found on most prostate cancer cells.

Cancer vaccines seem ideally suited for use in patients whose disease has already been diagnosed and treated with surgery, chemotherapy or radiation. They would then be immunized as a way to prevent the cancer from coming back and spreading. Such metastases are actually the leading cause of death from cancer.

Given the huge financial potential of therapeutic cancer vaccines, investors may want to closely follow the progress being made by the following companies currently testing such vaccines in humans:

ImmunoCellular Therapeutics (OTC BB:[IMUC.OB](#)) is testing ICT-107 in patients with glioblastoma, a fast-moving and deadly form of brain cancer. The company recently began a Phase II trial of the vaccine candidate after an initial study in 16 newly diagnosed glioblastoma patients delivered a three-year overall survival rate of 55%, compared with 16% based on traditional methods of care.

Inovio Pharmaceuticals (NYSE:[INO](#)) has VGX-3100, a therapeutic DNA vaccine candidate now in Phase II testing for the treatment of cervical dysplasia and cancer caused by two types of human papillomavirus (HPV). These sexually transmitted strains are thought to cause up to 70% of cervical cancer cases.

GlaxoSmithKline (NYSE:[GSK](#)) is betting it has found a mixture of proteins that can boost the body's natural ability to battle several kinds of cancers, all of which express the MAGE-A3 antigen. The company is in the midst of Phase III trials, testing its vaccine candidate against metastatic melanoma and non-small-cell lung cancer.

Advaxis (OTC BB:[ADXS.OB](#)) is working to develop an immunotherapy against HPV, the most prevalent sexually transmitted disease in the U.S. Its therapeutic vaccine candidate, ADXS-HPV, is being evaluated in four Phase II clinical trials, including two trials in cervical cancer and one in head and neck malignancies.

Also, privately held **GlobeImmune** has a deal worth \$40 million upfront and up to \$500 million with **Celgene** (NASDAQ:[CELG](#)) for the development of cancer vaccines. GlobeImmune is developing Tarmogens — Targeted Molecular Immunogens — for cancer and infectious disease. Its lead oncology candidate is GI-4000, a vaccine that targets pancreatic cancer caused by mutated versions of specific protein.