



TAPIMMUNE

www.tapimmune.com

OTCBB: TPIV

Cautionary Statement Regarding Forward Looking Statements

Certain statements contained herein are forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements in this document include, but are not limited to, statements relating to long-term stability, the Company's plan of operations and finances, the potential for the Company's vaccines and proposed clinical trials. The reader is cautioned that any such forward-looking statements are not guarantees of future performance and that actual results may differ materially from estimates in the forward-looking statements. The Company undertakes no obligation to revise these forward-looking statements to reflect events or circumstances after the date hereof.



TAPIIMMUNE

*“Immunotherapies for
Cancer,
Infectious Disease and
Bio-Defence”*



Corporate Profile

- TapImmune Inc. is a biotechnology company specializing in the development of innovative therapeutics and vaccines in the areas of oncology and infectious disease.
- Technology discovery at University of British Columbia
- Public corporation trading on OTCBB (TPIV)
- Based in Seattle, WA

Media Coverage



Market for Immunotherapies / Vaccines

- ▶ Fastest growing segment of pharmaceutical market:
- ▶ The global vaccine market is expected to grow to \$23 billion in 2011
 - Cancer:
 - Projected \$10 billion U.S. for cancer vaccines with CAGR of 70–100%
 - Stimulated by recent approvals of Dendreon's Provenge and BMS Yervoy
 - Infectious Disease:
 - Projected market – \$12 billion
 - Viral pandemics, societal pathogens, bio-defense

What is “TAP”?

Transporters associated with Antigen Presentation

- ▶ TAP is a ‘Protein Pump’ responsible for shuttling antigens to the surface of cells for presentation to the immune system
- ▶ Cancer cells turn TAP ‘OFF’ effectively hiding the cancer cells from the immune system
- ▶ Simply put, we turn TAP ‘ON’ again making the rogue cells visible to the immune system so they can be targeted and destroyed.
- ▶ The same process or ‘switch’ makes infectious disease vaccines significantly more effective or potent
- ▶ This means increased productivity, lower cost and possible lower side effects

TAP Technology Platform

- ▶ TAP is a **KEY** component in immune recognition pathway
- ▶ Stimulates T-cell recognition of antigens and production of cytotoxic T-cells that can infiltrate and kill tumors
- ▶ TAP is restored or up-regulated by delivering the genetic code to cells by a viral vector
- ▶ TAP then facilitates the binding of the foreign peptides to the MHC class I complex
- ▶ These are subsequently displayed on the infected cell's surface.
- ▶ Cytotoxic T-Cells recognize foreign peptides bound to the MHC class I antigen on the cell surface and destroy infected cells

TAP treatment **Restores** Immune Recognition in Cancer

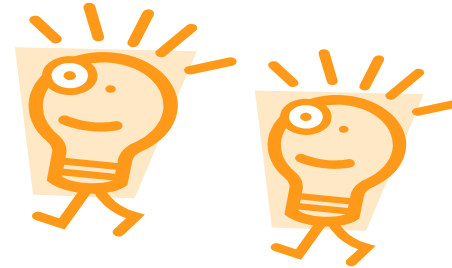
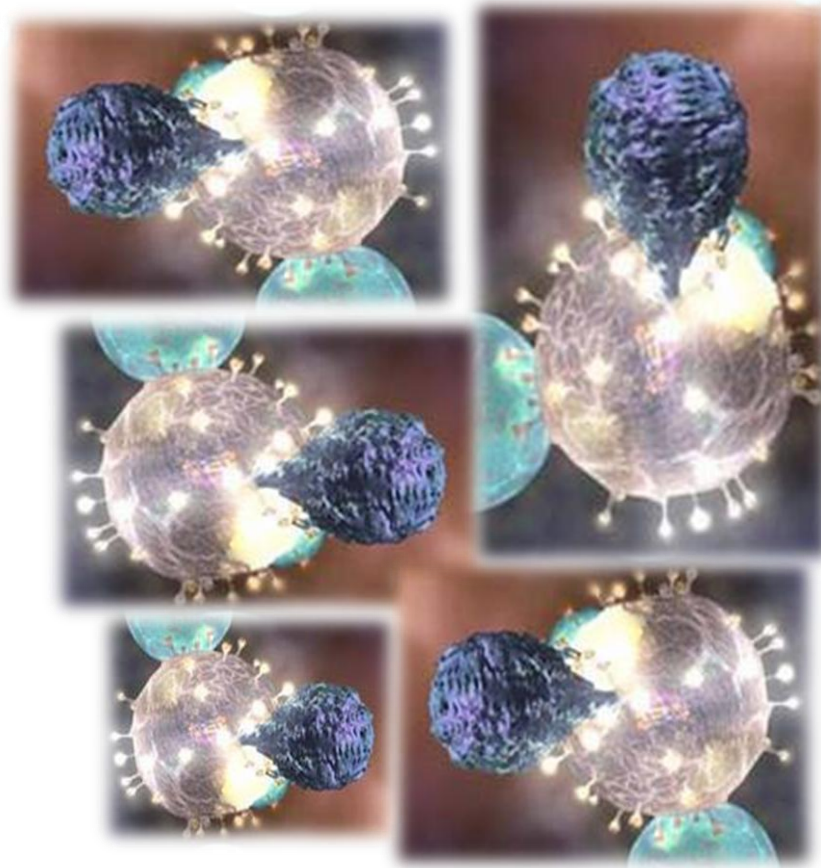


- Tumor cells now visible to the immune system
- Tumor cells unmasked by TAP immune system now targets for them for destruction

Need to Augment TAP levels in Infectious Disease

- ▶ Viral infections produce a range of viral peptides that may “overwhelm” normal TAP system
- ▶ Results in insufficient viral antigens presented to the cellular immune system
- ▶ Diminished expression of TAP is associated with disease susceptibility
- ▶ TapImmune vectors augmenting normal TAP levels boost immunity and **greatly** improve vaccine efficacy
- ▶ TAP study showed that adding TAP to a POX vaccine made the vaccine **100–1000 times more effective**

TAP Enhances Immune Recognition in Infectious Disease



- Greater number of viral antigens visible to the immune system
- Increases efficacy of studied vaccine by up to 1000 times
- Greater productivity makes vaccine available to more people at lower cost
- *‘Major step forward in new vaccine development’ Plos Pathogen*

Efficacy of TAP vector technology

▶ Cancer:

- Mouse models of metastatic melanoma and small cell lung cancer:
 - Reduced metastasis
 - Higher survival

▶ Infectious Disease:

- 100–1000 fold increase in efficacy of smallpox vaccine in animals.

Clinical Development

MAYO CLINIC Phase 1

HER2/neu +ve Breast Cancer Vaccine

- ▶ Combination of TAP + HER2/neu antigens – Mayo Clinic
 - applicable to ~ 80% of HER2/neu +ve patients
 - IND for Phase I studies approved July '11
 - Sponsored Research Agreement with Mayo Clinic Signed Aug '11
 - Clinical Trial Begins Oct 2011 on HER2/neu +ve patients

- ▶ Current therapy:
 - Trastuzumab (Herceptin) over \$5billion in annual sales
 - applicable to ONLY ~ 30% of HER2/neu +ve patients

Research

Smallpox/Biodefense Vaccines

- ▶ TAP improved potency of smallpox vaccine by 100–1000 fold
- ▶ MAYO CLINIC Collaboration in Smallpox underway
- ▶ TAP + peptide antigens licensed from Mayo Clinic
 - Broader patient population; cheaper, longer shelf-life
- ▶ “Animal Efficacy Rule” FDA pathway (24–36 months to potential stockpiling)
- ▶ Potential for TAP vaccine to be stockpiled for variety of emerging bio-threats, e.g. Dengue

Peer Reviewd Journal Publications

Pharma Mag March 2011

- ▶ Novel Targets for Cancer Vaccine Development

International Journal of Cancer: 120 (1935-1941) 2007

- ▶ TAP expression reduces IL-10 expressing tumor infiltrating lymphocytes and restores immunosurveillance against melanoma

Science Direct: Vaccine: 25 (2331-2339) 2007

- ▶ Tumour immunity and T cell memory are induced by low dose inoculation with a non-replicating adenovirus encoding TAP1

PLoS Pathogens: Volume 1 (Issue 4/ e36) December 2005

- ▶ Using the TAP Component of the Antigen-Processing Machinery as a Molecular Adjuvant

Cancer Research 65 (7926-7933) September 1, 2005

- ▶ Restoration of the Expression of Transporters Associated with Antigen Processing in Lung Carcinoma Increases Tumor-Specific Immune Responses and Survival

Cancer Research 16 (7485-7492) August 15, 2005

- ▶ Identification of Mechanisms Underlying Transporter Associated with Antigen Processing Deficiency in Metastatic Murine Carcinomas

Journal of Immunology 172 (5200-5205) May 2004

- ▶ CTL-Dependent and -Independent Antitumor Immunity Is Determined by the Tumor Not the Vaccine

Nature Biotechnology 18 (515-520), May 2000

- ▶ TAP expression provides a general method for improving the recognition of malignant cells in vivo

Patents

- ❑ METHOD OF IDENTIFYING MHC-CLASS I RESTRICTED ANTIGENS
 - ❑ METHOD OF ENHANCING EXPRESSION OF AN IMMUNE RESPONSE
 - ❑ LOW DOSE INNOCULATION WITH TAP-I FOR ANTITUMOR IMMUNITY
 - ❑ HAT ACETYLATION PROMOTERS
 - ❑ POXVIRADAE TREATMENT
 - ❑ COMBINATION OF ANTIGEN PROCESSING COMPONENTS ELICITS SURVIVAL IN TUMOR-BEARING ANIMALS
- ❖ Patents issued in multiple global jurisdictions as recent as Aug 2011

Leverage of Collaborations

- ▶ Crucell NV
 - TAP manufacturing (PerC6)
- ▶ Aeras (Global TB Vaccine Foundation)
 - TB antigens (Phase II clinical) + TAP
 - New TB vaccine including TAP
- ▶ Mayo Clinic:
 - Cancer: HER2/neu +ve breast cancer antigen technology
 - Bio-Defence: Smallpox virus antigen technology

Management

- ▶ **Glynn Wilson, Ph.D.**
Executive Chairman and CEO

Head of Drug Delivery at SmithKline Beecham Pharmaceuticals, Research Area Head in Advanced Drug Delivery at Ciba-Geigy Pharmaceuticals, and President and co-founder of Auriga Pharmaceuticals, Executive Vice President of R&D at Tacora Ph.D. in Biochemistry and conducted medical research at The Rockefeller University, New York. He has been on the Board of TapImmune for 4 years.

- ▶ **Denis D Corin (B.Soc.Sci)**
President and CFO

Denis Corin served as TapImmune's President and CEO from Nov 2006 to July 1st 2009. He is a management consultant with experience in large pharmaceutical (Novartis), diagnostic instrumentation companies (Beckman Coulter) as well as the small cap biotech arena (MIV Therapeutics). He holds a double major Bachelors degree in Economics and Marketing from the University of Natal, South Africa.

Advisors and R&D Team

- Mac Cheever (Corixa; Fred Hutchinson Cancer Center)
- Mark Reddish (Biomira; ID Biomedical)
- Keith Knutson (Mayo Clinic)
- Greg Poland (Mayo Clinic)
- Lynn Depippo (Sherbrook Capital Management)

Our Vision for TAP

- ▶ Leading Immunotherapy Company
- ▶ Multiple technologies
- ▶ Fight against cancer:
 - Multiple metastatic cancers
 - Multiple combination products
 - Early stage prophylactic use
- ▶ Stockpiled for biodefense threats and viral pandemics:
 - Variety of infectious diseases
 - Emerging bio-terrorist threats
 - Making other vaccines more effective

Investors that Share our Vision

Why Invest in TPIV now?

- ▶ Breakthrough technology
- ▶ Strong product pipeline
- ▶ World-class team and collaborators
- ▶ Risk diversification – cancer & infectious disease
- ▶ Compelling preclinical data
- ▶ Start of clinical programs
- ▶ Undervalued and poised for **significant** growth

