

VAXEAL

Company & Technology Overview

July, 2013



www.vaxeal-group.com

OVERVIEW

- ❖ SME founded in 2009 - Headquartered in Vevey (CH) + Affiliates in France (R&D) and China
- ❖ Development of novel generation of **Long Synthetic Peptide-based therapeutic vaccines** in combination with **immunomodulatory drugs**
- ❖ Focus on large market opportunities with **MAJOR** global patient unmet medical needs:
 - 1) **Cancer**: Survivin, Midkine and CBX-1
 - 2) **Infectious diseases**: Hepatitis C genotype 1 – 6
- ❖ **Strong IP Position** : 4 licensed patents + 2 pending patents
- ❖ **Seed Investment**: 3 million € + Founders money + 15 years academic investment

- ❖ **Strategic Academic Partners**



EXECUTIVE TEAM



Dr Ahmed Bouzidi, PhD, MBA – CEO

- Successful entrepreneur in Europe and China
- Board member of EBE-Biopharma
- Member of the R&D Task Force of Vaccines Europe



Mr Serge Grisard, Msc, MBA, EVP Corporate Development

- 18 years experience in Healthcare product development, Commercialization and PPPs
- Global management at Siemens Medical, Pfizer, Astra-Zeneca, and a range of private start-ups



Pr Giampietro Corradin, PhD – CTO

- Worldwide expert in LSP-based vaccines (30 years experience)
- Development of several vaccine candidates



Dr Jérôme Kerzerho, PhD – Director R&D

- Expert in immunology
- Discovered the tumor antigens Midkine
- Identified new clinically relevant T cell epitopes in Survivin and Midkine tumor antigens

SCIENTIFIC ASSOCIATES

Pr Eric Tartour, MD, PhD – Immuno-Oncology

- Director of the cancer immunomonitoring department of HEGP (Paris)
- Director of an Inserm team dedicated to cancer immunotherapy
- Clinical development of several cancer immunotherapies



Pr Pedro Romero, MD, PhD – Immuno-Oncology

- Worldwide Oncology expert at Ludwig institute
- Elucidation of the immunological mechanisms of cancer therapeutic vaccines
- Laureate of the Robert-Wenner award in 2001 (best Swiss researcher)



Dr Bernard Maillère, PhD, Eng. – Immunology

- Director of the department of immunochemistry of cellular immune response at the CEA (FR)
- Developed the Predictive platform of Vaxeal

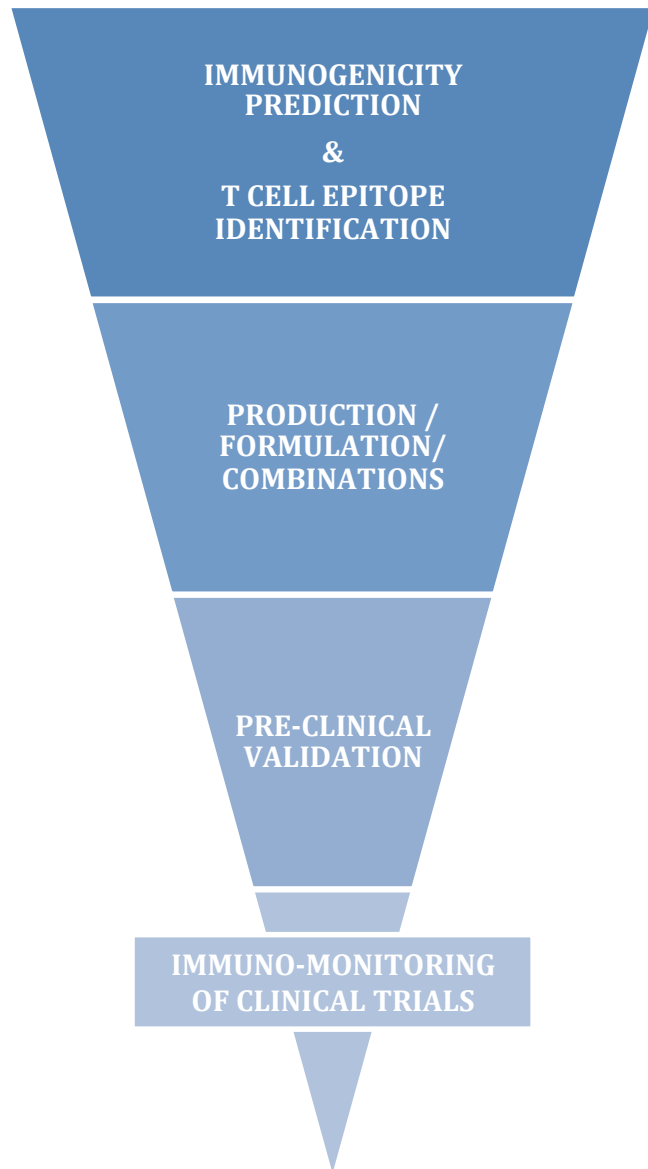


Pr François Spertini, MD, PhD – Virology

- Expert in vaccine clinical development
- Focused on the development of novel vaccine strategies in the field of hepatitis C, tuberculosis, Malaria and allergy

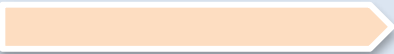
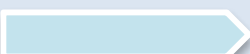


ADVANCED PROPRIETARY TECHNOLOGY PLATFORMS FOR...



- ✓ A rapid identification of relevant T cell epitopes to be incorporated in a vaccine
- ✓ The design, formulation and validation of the vaccine candidates
- ✓ Pre-clinical proof of concept studies
- ✓ The evaluation of synergistic combination of the formulated vaccines with immunomodulatory agents
- ✓ The immunomonitoring of clinical trials

VAXEAL - PIPELINE

PRODUCT	INDICATION	LEAD OPTIMIZATION	PRE-CLINICAL P-o-C	PHASE I (I/II)	PARTNERS	MARKET POTENTIAL
Survivin (SVX-1) (1)	Prostate, Renal and Pancreas cancers, Metastatic melanoma			Q1 2014	INSERM - Ludwig	> €5bn/ year
Midkine (MDX-1) (2)	NSCLC, Colorectal, Breast and Ovarian cancers			Q3 2014		> €5bn/ year
CBX-1 (3)	Multiple Cancers			Q1 2015		> €5bn/ year
Combo (1+2+3)	Multiple Cancers			Q3 2016		> €5bn/ year
Core/NS3	Hepatitis C gen.1/6			Q1 2014	CMC	> €5bn/ year

VAXEAL

ONCOLOGY PROGRAM



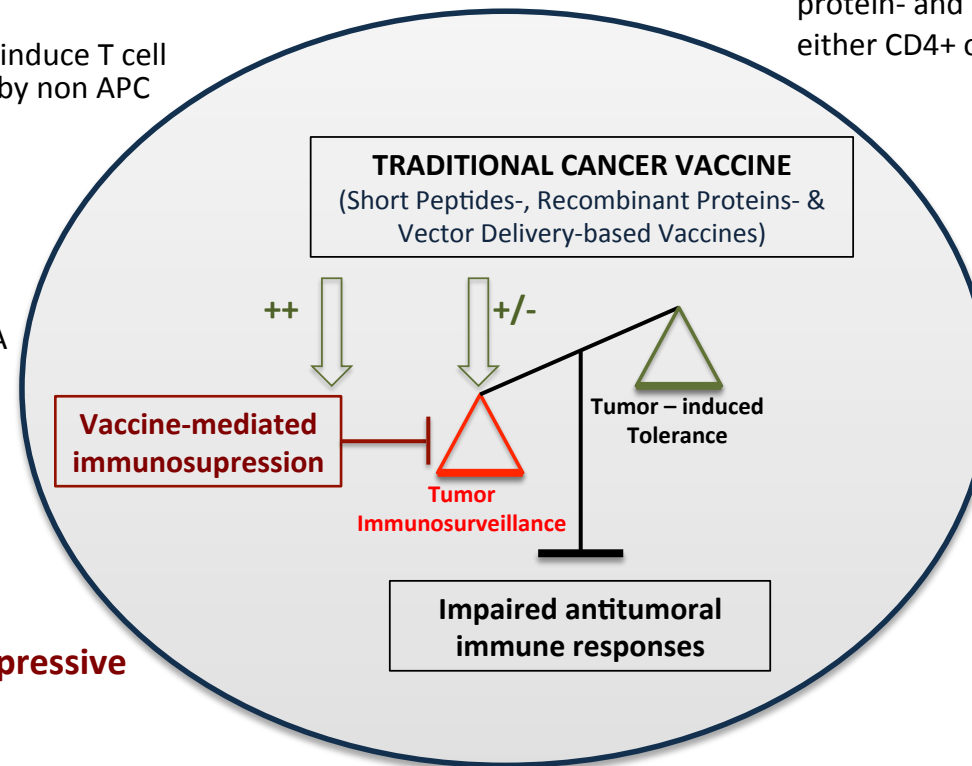
MAIN ISSUES IN TRADITIONAL CANCER VACCINE-BASED APPROACHES

Weak Immunogenicity

- ✓ As vaccine target of self or dispensable antigens
- ✓ Short peptide based-vaccines induce T cell anergy as they are presented by non APC

Difficulty in achieving the right balance of CD4⁺ and CD8⁺ T cells - Short peptides-, protein- and DNA-based vaccines mainly induce either CD4⁺ or CD8⁺ T cells

Restricted efficacy to certain cancer indications or patients HLA types



Safety and Cost of Vaccines created from living organisms

Tumor-mediated immunosuppressive mechanisms

- ✓ Treg induction
- ✓ Overexpression of costimulatory inhibitory molecules (PD-L1...)
- ✓ Tumor-mediated angiogenesis

Limited longevity of the elicited anti-tumoral responses leading to impaired protection against tumor relapses

Need to optimize traditional therapeutic cancer vaccine design to increase their clinical efficacy

VAXEAL - BREAKTHROUGH STRATEGY OF THERAPEUTIC CANCER VACCINE

Vaxeal developed an **innovative combined strategy of cancer vaccine** enabling to overcome the limitations to current vaccine approaches

COMPONENTS OF VAXEAL'S CANCER THERAPEUTIC VACCINES	ADVANTAGES
Long Synthetic Peptides (LSP)-based vaccine encompassing: ✓ Multiple promiscuous CD4+ and CD8+ T epitopes ✓ Derived from broadly overexpressed tumor antigens playing vital functions	Generate long-term and high affinity CD4+ and CD8+ anti-tumoral T cell responses in all of the cancer patients irrespective of their HLA types
	Limit tumor immune escape thanks to the tumor restricted expression profile and vital functions of the tumor antigen target
Optimized formulation with potent clinical-approved immune-adjuvant	Improve the polarization and longevity of the induce T cell responses
Synergistic combination with clinical-approved advanced immunomodulatory drugs	Overcome tumour-mediated immunosuppression ✓ Low doses chemotherapy ✓ Anti-angiogenic drugs -> <i>For hypervascular tumors</i> ✓ Others advanced immunomodulatory drugs

VAXEAL CANCER VACCINE - COMPETITIVE ADVANTAGES

	Vaxeal Therapeutic Vaccines	LSPs	Short Peptides	Recombinant Proteins	Vector delivery (e.g. DNA plasmide, viral vector,..)
Immunogenicity	★ ★ ★	★ ★ ★	-	★ ★	★ ★ ★
Specificity	★ ★ ★	★ ★ ★	★	★ ★	★ ★ ★
Applicability a broad target population/cancers	★ ★ ★	★ ★	-	★ ★	★ ★
Induction of long-lasting protection against relapse	★ ★ ★	★★	★	★ ★	★★
Overcome of tumor-induced immunosuppressive mechanisms (T cell exhaustion)	★ ★ ★	-	-	-	-
Safety	★ ★ ★	★ ★ ★	★ ★ ★	★ ★	★
Ease of production and purification	★ ★ ★	★ ★ ★	★ ★ ★	★	★
Stability	★ ★ ★	★ ★ ★	★ ★ ★	Protein dependent	Vector dependent
Clinical efficacy	★ ★ ★	★ ★	-	★	★ ★

- Nil, ★ Poor, ★★ Moderate, ★★★ Optimal

VAXEAL

THANK YOU

For more information...

Website: www.vaxeal-group.com

Contact: abouzidi@vaxeal.net