

# Report Package: Immunotherapy with Oncolytic Viruses and mRNA Vaccines & Therapeutics

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## Abstracts

Report Package: Immunotherapy with Oncolytic Viruses and mRNA Vaccines & Therapeutics

mRNA is a rather versatile therapeutic modality and offers a range of advantages. mRNA lacks genomic integration and its use results in transient expression of the encoded protein. This favorable safety profile makes mRNA especially attractive for vaccines and gene editing. mRNA is well defined chemically which ensures reproducible manufacturing at high yield, purity and activity. Improvements of lipid nanoparticle formulations as a vehicle for in vivo systemic delivery of mRNA has greatly favored the development of in vivo transfection strategies.

It is increasingly recognized that oncolytic viruses not only are able to directly lyse cancer cells, but they also „free“ tumor specific neoantigens, indirectly acting as a cancer vaccine. The so far modest efficacy of oncolytic viruses still can be improved when combined with immune checkpoint inhibitors. This lead to an increased partnering interest of the major immuno-oncology (I-O) players, but also of investors who view oncolytic viruses as a must be for I-O combination regimens. Optimization of oncolytic viruses is ongoing and new constructs intend to solve some of the open problems regarding the way of administration (intratumoral vs systemic), higher cancer cell specific replication capacity, and longer persistence in vivo.

The original reports were published in January and June 2017, respectively:

The Oncolytic Virus Landscape 2017: an analysis of pipeline, stakeholders, deals, industry trends & opportunities

mRNA Vaccines & Therapeutics 2017: an industry analysis of  
technologies, pipelines, stakeholders and deals

Detailed report descriptions, tables of contents and samples from the reports can be found on the respective product page.

## Contents

### **MRNA VACCINES & THERAPEUTICS 2017: AN INDUSTRY ANALYSIS OF TECHNOLOGIES, PIPELINES, STAKEHOLDERS AND DEALS**

#### **1 EXECUTIVE SUMMARY**

#### **2 INTRODUCTION & OVERVIEW**

#### **3 PROFILES OF MRNA-BASED VACCINES & THERAPEUTICS**

##### 3.1 Standardized Therapeutic Cancer mRNA Vaccines

3.1.1 BI-1361849; CV9202 & CV9201

3.1.2 CV9104 & CV9103

3.1.3 Tetravalent Lipo-MERIT Vaccine

3.1.4 TriMixDC-Mel

##### 3.2 Individualized Therapeutic Cancer mRNA Vaccines

3.2.1 IVAC Mutanome

3.2.2 IVAC Warehouse

3.2.3 mRNA-4157

3.2.4 Rocapuldencel-T; AGS-003

##### 3.3 Therapeutic Infectious Disease mRNA Vaccines

3.3.1 AGS-004

##### 3.4 Prophylactic Infectious Disease mRNA Vaccines & Adjuvants

3.4.1 CV7201

3.4.2 MRK-1777

3.4.3 mRNA-1325

3.4.4 mRNA-1388

3.4.5 mRNA-1440; VAL-506440

3.4.6 mRNA-1647

3.4.7 mRNA-1653

3.4.8 mRNA-1706

3.4.9 mRNA-1851; VAL-339851

3.4.10 RNAdjuvant; CV8102

##### 3.5 mRNA in Immuno-Oncology

3.5.1 CARMA-hMeso

3.5.2 CTX101

3.5.3 mRNA-2416

3.5.4 mRNA-2905

### 3.6 mRNA Therapeutic for Monogenetic Diseases

#### 3.6.1 CRISPR/Cas9 TTR mRNA-LNP

#### 3.6.2 PRX-ASL

#### 3.6.3 PRX-ASS1

#### 3.6.4 PRX-OTC

### 3.7 mRNA Therapeutic for Other Diseases

#### 3.7.1 AZD8601

## 4 PIPELINE ANALYSIS

### 4.1 Standardized mRNA Cancer Vaccines

### 4.2 Individualized mRNA Cancer Vaccines

### 4.3 Therapeutic mRNA Infectious Disease Vaccines

### 4.4 Prophylactic mRNA Infectious Disease Vaccines

### 4.5 Replicon RNA Infectious Disease Vaccines

### 4.6 mRNA Protein Therapeutics for Cancer and Cardiovascular Diseases

### 4.7 mRNA Protein Therapeutics for Ornithine TransCarbomylase (OTC) Deficiency

### 4.8 mRNA Protein Therapeutics for Cystic Fibrosis

### 4.9 mRNA Protein Therapeutics for Other Genetic Diseases

### 4.10 mRNA Antibody Therapeutics

### 4.11 Therapeutic mRNA-based Gene Editing

### 4.12 Ex vivo mRNA-based T-Cell Engineering

## 5 PROFILES OF SELECTED MRNA & DELIVERY TECHNOLOGIES

### 5.1 Ex vivo mRNA Loading

#### 5.1.1 Arcelis Technology

#### 5.1.2 Flow Electroporation Technology

### 5.2 In vivo Carrier & mRNA

#### 5.2.1 Hybrid mRNA Technology

#### 5.2.2 Lipid Nanoparticle (LNP) mRNA Technology

#### 5.2.3 Nanotaxi Technology

#### 5.2.4 RNArt & RNAntibody Technology

#### 5.2.5 UNA & LUNAR Technologies

### 5.3 mRNA Vaccines & Stimulants/Adjuvants

#### 5.3.1 RNActive Technology

#### 5.3.2 Self-Amplifying mRNA (SAM) Technology

#### 5.3.3 TriMix Technology

## **6 TECHNOLOGY ANALYSIS**

- 6.1 mRNA Modifications
- 6.2 mRNA Efficiencies
- 6.3 Adjuvant/Stimulant & Carrier Technologies for mRNA-based Vaccines
- 6.4 Carriers for mRNA-based Protein & Antibody Therapeutics

## **7 COMPANY PROFILES**

- 7.1 Companies focused on mRNA Therapeutics and Vaccines
  - 7.1.1 Arcturus Therapeutics
  - 7.1.2 Argos Therapeutics
  - 7.1.3 BioNTech
  - 7.1.4 CureVac
  - 7.1.5 eTheRNA immunotherapies
  - 7.1.6 Ethris
  - 7.1.7 In-Cell-Art
  - 7.1.8 Kernal Biologics
  - 7.1.9 Moderna Therapeutics
  - 7.1.10 PhaseRx
  - 7.1.11 RaNa Therapeutics
- 7.2 Companies with a focus on self-amplifying mRNA (Replicon RNA)
  - 7.2.1 GlaxoSmithKline Vaccines
  - 7.2.2 Synthetic Genomics
  - 7.2.3 Tiba Biotechnology
- 7.3 Companies with a focus on mRNA Delivery
  - 7.3.1 Acuitas Therapeutics
  - 7.3.2 Arbutus Biopharma
  - 7.3.3 Silence Therapeutics
- 7.4 Companies with a focus on Gene Editing and CAR T-Cells
  - 7.4.1 CRISPR Therapeutics & Casebia Therapeutics
  - 7.4.2 Intellia Therapeutics
  - 7.4.3 MaxCyte
  - 7.4.4 Sangamo Therapeutics
  - 7.4.5 ZIOPHARM Oncology
- 7.5 Companies focused on Contract Manufacturing of mRNA
  - 7.5.1 TriLink BioTechnologies
  - 7.5.2 Precision NanoSystems
- 7.6 Biopharmaceutical Companies with mRNA Programs

- 7.6.1 Alexion Pharmaceuticals
- 7.6.2 Regeneron Pharmaceuticals
- 7.6.3 Ultragenyx Pharmaceutical
- 7.6.4 Vertex Pharmaceuticals
- 7.7 Major Pharmaceutical Companies with mRNA Programs
  - 7.7.1 AstraZeneca
  - 7.7.2 Bayer
  - 7.7.3 Boehringer Ingelheim
  - 7.7.4 Janssen
  - 7.7.5 Merck
  - 7.7.6 Roche
  - 7.7.7 Sanofi
  - 7.7.8 Takeda Pharmaceutical Co.

## **8 STAKEHOLDER ANALYSIS**

- 8.1 mRNA Technology Companies
  - 8.1.1 Companies Focused on mRNA Vaccines & Therapeutics
  - 8.1.2 Companies Focused on Self-Amplifying mRNA
  - 8.1.3 Companies Focused on mRNA Delivery
  - 8.1.4 Companies Focused on Gene Editing & CAR T-Cells by Use of mRNA
- 8.2 Pharmaceutical Companies with mRNA Programs
  - 8.2.1 Rare Disease Biopharmaceutical Companies with mRNA Programs
  - 8.2.2 Major Pharmaceutical Companies with mRNA Programs

## **9 MRNA MANUFACTURING**

- 9.1 In-house mRNA Manufacturing
- 9.2 Out-sourced mRNA Manufacturing

## **10 FINANCIAL PERSPECTIVE ON MRNA**

- 10.1 mRNA Partnering Deals
- 10.2 Funded mRNA Programs

## **11 OUTLOOK**

## **12 REFERENCES**

# **THE ONCOLYTIC VIRUS LANDSCAPE 2017: AN ANALYSIS OF PIPELINE, STAKEHOLDERS, DEALS, INDUSTRY TRENDS & OPPORTUNITIES**

## **1 EXECUTIVE SUMMARY**

## **2 INTRODUCTION & OVERVIEW**

## **3 SELECTION, DESIGN & CONSTRUCTION OF ONCOLYTIC VIRUSES**

- 3.1 Herpes Simplex Virus (HSV) – based Oncolytic Viruses
- 3.2 Adenoviruses – based Oncolytic Viruses
- 3.3 Vaccinia Virus - Based Oncolytic Viruses
- 3.4 Vesicular Stomatitis Virus - based Oncolytic Viruses
- 3.5 Newcastle Disease Virus - based Oncolytic Viruses
- 3.6 Various Oncolytic Viruses

## **4 PROFILES OF ONCOLYTIC VIRUSES**

- 4.1 HSV-based Oncolytic Viruses
  - 4.1.1 Imlygic; talimogene laherparepvec; T-Vec; OncoVEX(GM-CSF)
  - 4.1.2 G47?
  - 4.1.3 HF10; TB-1401
  - 4.1.4 HSV1716; seprehrvir
  - 4.1.5 HSV-Rb-p450
  - 4.1.6 BV-2711
  - 4.1.7 ONCR-001
- 4.2 Adenovirus-based Oncolytic Viruses
  - 4.2.1 Oncorine
  - 4.2.2 CG0070
  - 4.2.3 DNX-2401
  - 4.2.4 OBP-301; telomelysin
  - 4.2.5 ONCOS-102
  - 4.2.6 Enadenotucirev; ColoAd1
  - 4.2.7 Adenoviral VirRx 007; INGN 007; VRX-007
  - 4.2.8 VCN-01
  - 4.2.9 LOAd703
  - 4.2.10 H103
  - 4.2.11 NG-348
  - 4.2.12 ORCA-010

- 4.2.13 TILT-123
- 4.2.14 UIO-112
- 4.2.15 TILT-324
- 4.2.16 DNX-2440; Delta-24-RGDOX
- 4.2.17 DNX-2450
- 4.2.18 OBP-702
- 4.3 Vaccinia Virus-based Oncolytic Viruses
  - 4.3.1 Pexastimogene devacirepvec; Pexa-Vec; JX-594; TG6006
  - 4.3.2 GL-ONC1
  - 4.3.3 JX-929; vvDD
  - 4.3.4 TG6002
  - 4.3.5 WO-12
- 4.4 Vesicular Stomatitis Virus-based Oncolytic Viruses
  - 4.4.1 MG1 Maraba/MAGE-A3 (MG1MA3)
  - 4.4.2 VSV-IFNbeta
  - 4.4.3 VSV-IFNbeta-NIS
  - 4.4.4 VSV-GP
- 4.5 Newcastle Disease Virus-based Oncolytic Viruses
  - 4.5.1 NDV-HUJ
  - 4.5.2 PV701
  - 4.5.3 recNDVGM-CSF
- 4.6 Various Oncolytic Viruses
  - 4.6.1 Rigvir
  - 4.6.2 Reolysin; pelareorep
  - 4.6.3 CAVATAK; CVA21
  - 4.6.4 MV-NIS
  - 4.6.5 NTX-010; SVV-001
  - 4.6.6 H-1PV
  - 4.6.7 PVS-RIPO
  - 4.6.8 MYX-135
- 4.7 Stem Cell-delivered Oncolytic Viruses
  - 4.7.1 TBX.OncV (CRad-Survivan-pk7)
  - 4.7.2 MSC-ICOVIR-5

## **5 ANALYSIS OF ONCOLYTIC VIRUS PIPELINE**

- 5.1 Overview of the Pipeline of Oncolytic Viruses
- 5.2 Approved and Marketed Oncolytic Viruses
- 5.3 Late Stage Development of Oncolytic Viruses



5.4 Combination of Oncolytic Viruses with Immune Checkpoint Inhibitors and Other Anti-Tumor Agents

5.5 Armed Oncolytic Viruses

## **6 COMPANY PROFILES**

6.1 Pharma & Biotech

6.1.1 Amgen

6.1.2 Astellas Pharma

6.1.3 AstraZeneca

6.1.4 Boehringer Ingelheim

6.1.5 Bristol-Myers Squibb

6.1.6 Celgene

6.1.7 Daiichi Sankyo

6.1.8 Green Cross

6.1.9 Jiangsu Hengrui

6.1.10 Lee Pharma

6.1.11 Medigen Biotechnology

6.1.12 Merck

6.1.13 Otsuka Pharmaceutical Co

6.1.14 Pfizer

6.1.15 Roche

6.2 First Generation Oncolytic Virus Companies

6.2.1 Cold Genesys

6.2.2 Genelux

6.2.3 Latima

6.2.4 Multivir/VirRx

6.2.5 Neotropix

6.2.6 Oncolytics Biotech

6.2.7 Shanghai Sunway Biotech

6.2.8 SillaJen

6.2.9 Takara Bio

6.2.10 Theravir

6.2.11 Virttu Biologics & TNK Therapeutics

6.2.12 Wellstat Biologics

6.3 Second Generation Oncolytic Virus Companies

6.3.1 DNATRIX

6.3.2 Oncolys BioPharma

6.3.3 ORCA Therapeutics

6.3.4 Oryx

6.3.5 Targovax

6.3.6 VCN Biosciences

6.3.7 Viralytics

6.4 Third Generation Oncolytic Virus Companies

6.4.1 Benevir BioPharm

6.4.2 Lokon Pharma

6.4.3 PsiOxus Therapeutics

6.4.4 Transgene

6.5 Fourth Generation Oncolytic Virus Companies

6.5.1 Duke University Start-Up Company

6.5.2 IGNITE Immunotherapy

6.5.3 Oncorus

6.5.4 Replimmune

6.5.5 TILT Biotherapeutics

6.5.6 Turnstone Biologics

6.5.7 Unleash Immuno Oncolytics

6.5.8 ViraTherapeutics

6.5.9 Vyriad

6.5.10 Western Oncolytics

## **7 STAKEHOLDER ANALYSIS**

7.1 Pharma & Biotech

7.2 First Generation Oncolytic Virus Companies

7.3 Second Generation Oncolytic Virus Companies

7.4 Third Generation Oncolytic Virus Companies

7.5 Fourth Generation Oncolytic Virus Companies

## **8 FINANCING & PARTNERING**

8.1 Grants, Credits & Donations

8.2 Venture Capital, Private Equity & Private Placements

8.3 Partnering Deals

8.4 Listing on the Stock Market

8.5 Mergers & Acquisitions

## **9 TRENDS & OPPORTUNITIES**

## 10 REFERENCES

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