Activating the immune system to fight cancer

Company update
Oslo

12 June 2018
This report contains certain forward-looking statements based on uncertainty, since they relate to events and depend on circumstances that will occur in future and which, by their nature, will have an impact on the results of operations and the financial condition of Targovax. Such forward-looking statements reflect the current views of Targovax and are based on the information currently available to the company. Targovax cannot give any assurance as to the correctness of such statements.

There are a number of factors that could cause actual results and developments to differ materially from those expressed or implied in these forward-looking statements. These factors include, among other things, risks or uncertainties associated with the success of future clinical trials; risks relating to personal injury or death in connection with clinical trials or following commercialization of the company’s products, and liability in connection therewith; risks relating to the company’s freedom to operate (competitors patents) in respect of the products it develops; risks of non-approval of patents not yet granted and the company’s ability to adequately protect its intellectual property and know-how; risks relating to obtaining regulatory approval and other regulatory risks relating to the development and future commercialization of the company’s products; risks that research and development will not yield new products that achieve commercial success; risks relating to the company’s ability to successfully commercialize and gain market acceptance for Targovax’s products; risks relating to the future development of the pricing environment and/or regulations for pharmaceutical products; risks relating to the company’s ability to secure additional financing in the future, which may not be available on favorable terms or at all; risks relating to currency fluctuations; risks associated with technological development, growth management, general economic and business conditions; risks relating to the company’s ability to retain key personnel; and risks relating to the impact of competition.
Introduction

2. ONCOS oncolytic virus program
3. TG mutRAS neoantigen vaccine
4. Targovax pipeline
5. Corporate overview
From a sequential treatment strategy directly targeting the cancer...

1. **Surgery**
   When possible, surgical resection to remove the tumor

2. **Radiotherapy**
   Tumor irradiation to shrink tumor volume

3. **Chemotherapy**
   Cornerstone treatment in most cancer forms
HARNESSING THE POWER OF THE PATIENT’S OWN IMMUNE SYSTEM

…to an integrated combination approach

Immune activators
Oncolytic viruses, vaccines

Immune boosters
CAR-Ts, TCRs

Immune modulators
Checkpoint inhibitors

Targeted therapy
PARPs, gene therapy, etc.

Surgery - Radio - Chemo

Targovax focus
Mode of action

IMMUNE ACTIVATORS TURN COLD TUMORS HOT

Example from Targovax Phase I trial – Ovarian cancer patient

Before injection of oncolytic virus
“Cold tumor”
No T-cell infiltration

After injection of oncolytic virus
“Hot tumor”
Full T-cell infiltration

CD8+ T-cell
Recognizes and destroys cancer cells
Targovax has two programs in clinical development, with an **ONCOLOYTIC VIRUS LEAD PRODUCT CANDIDATE**

**ONCOS**

**Oncolytic virus**

- **Lead product candidate**
  - Genetically *armed adenovirus*
  - *Alerts the immune system* to the presence of cancer antigens
  - *Induces T-cells* specific to the patients’ tumor
  - *4 ongoing trials*

**Pipeline product**

- *Shared neoantigen*, therapeutic cancer vaccine
- Triggers the immune system to *recognize mutant RAS cancers*

**TG**

**Neoantigen vaccine**

*Activates the immune system*

*Triggers patient-specific responses*

*No need for individualization*
Major deals over the past 6 months are driving increasing
INDUSTRY INTEREST IN ONCOLYTIC VIRUSES

<table>
<thead>
<tr>
<th>Acquirer</th>
<th>Target</th>
<th>Type of deal</th>
<th>Deal value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MERCK</strong></td>
<td><strong>Viralytics</strong></td>
<td><strong>M&amp;A</strong> Phase I/II oncolytic virus</td>
<td>USD 400m up-front cash</td>
</tr>
<tr>
<td><strong>Janssen</strong></td>
<td><strong>BeneVir</strong></td>
<td><strong>M&amp;A</strong> Pre-clinical oncolytic virus</td>
<td>USD 140m up-front cash, Up to USD 1b total value</td>
</tr>
<tr>
<td><strong>Bristol-Myers Squibb</strong></td>
<td><strong>PsiOxus Therapeutics</strong></td>
<td><strong>BD partnership</strong> IV delivered oncolytic virus</td>
<td>USD 15m milestone payment, Up to USD 1b total value</td>
</tr>
</tbody>
</table>
ONCOS oncolytic virus program

3. TG mutRAS neoantigen vaccine
4. Targovax pipeline
5. Corporate overview
ONCOS-102 Phase I single agent proof of concept

IMMUNE ACTIVATION DEMONSTRATED

ONCOS-102 Phase I trial design:
- 12 patients, 7 different solid tumors
- No other treatment options left
- Monotherapy 9 injections

Top-line results:
- 100% innate immune activation
- 11/12 patients increase in TILs
- Abscopal effect
- Tumor specific T-cells in blood
- Correlation with survival
ONCOS-102
Phase I single agent proof of concept

CD8+ T-CELL INFILTRATION CORRELATES WITH SURVIVAL

Fold-change CD8+ T-cell count vs. survival

\[ r = 0.75 \quad p = 0.005 \]

Case example
- Ovarian cancer
- Failed on 5 chemotherapies
- Tumor specific T-cells after 2 years
- Stable disease for 3 years
- Survived 3.5 years
ONCOS
CLINICAL DEVELOPMENT STRATEGY

1. Mesothelioma
   Orphan disease

   Target launch indication
   - Orphan drug
   - Addition to SoC
   - Controlled trial
   - 15,000 incidents

2. CPI synergy
   Intra-tumoral

   Indications with limited CPI effect
   - Melanoma Ph I
   - Combo w/PD-1
   - >100,000 incidents

3. CPI synergy
   Intra-peritoneal

   Peritoneal malignancies
   - Ovarian/colorectal
   - Ph I/II
   - Combo w/PD-L1
   - >100,000 incidents

4. Next generation
   ONCOS viruses

   Double transgene adenoviruses
   - Novel targets
   - In vivo testing

SOURCE: Global Data, EU big 5 + US
ONCOS

CLINICAL PROGRAM OVERVIEW

- **Compassionate use program**
  - 115 patients

- **Phase I trial**
  - 12 patients
  - 7 indications

- **Melanoma**
  - Phase I
  - 12 patients
  - Combination with pembrolizumab
  - PoC in CPI refractory patients

- **Peritoneal cancer**
  - Phase I/II
  - Up to 78 patients
  - Ovarian and colorectal cancers
  - Combination with durvalumab
  - Intraperitoneal administration
  - Collaboration with AZ, CRI, Ludwig

- **Mesothelioma**
  - Phase I/II - randomized
  - 30 patients
  - Orphan indication
  - Combination with SoC chemo
  - Randomized vs. SoC
ONCOS-102 has the potential to become a breakthrough IN THE TREATMENT OF MESOTHELIOMA

Rationale for ONCOS-102 opportunity in mesothelioma

**Become frontline therapy**
- Currently testing efficacy in combination with SoC chemotherapy in both 1\textsuperscript{st} and 2\textsuperscript{nd} line in 30 patients randomized Phase I/II trial
- Good safety profile

**Orphan Drug Designation**
- High unmet medical need, ONCOS-102 has ODD
- Opportunity for priority regulatory review
- 7 year market exclusivity in the US and 10 years in the EU

**Limited competition**
- CPIs show some early signs of efficacy, but are potential ONCOS-102 combinations, rather than competitors
- No/few competing viruses and vaccines in clinical development
ONCOS-102 in malignant pleural mesothelioma

PHASE I/II STUDY DESIGN IN COMBINATION WITH SoC

**Patient population**
Advanced malignant pleural mesothelioma
1st line / 2nd line

**Safety lead-in**
- **Experimental group** (n=14)
  ONCOS-102 (6 administrations) plus SoC chemotherapy (6 cycles)
- **Control group** (n=10)
  SoC (6 cycles)

Non-randomized

Randomized

**Randomized part currently enrolling**

Safety lead-in completed
ONCOS-102 in malignant pleural mesothelioma
SIGNAL OF EFFICACY IN THE FIRST 6 PATIENTS

<table>
<thead>
<tr>
<th>1</th>
<th>Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>ONCOS-102 well-tolerated in combination with chemotherapy</td>
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<table>
<thead>
<tr>
<th>2</th>
<th>Innate immune activation</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>Systemic increase of pro-inflammatory cytokines in 6/6 patients (IL-6, TNFα and IFNγ)</td>
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<table>
<thead>
<tr>
<th>3</th>
<th>Adaptive immune activation</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>Increase in tumor infiltration of CD4+ and CD8+ T cells in 3/4 patients</td>
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<thead>
<tr>
<th>4</th>
<th>Clinical activity</th>
</tr>
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<tbody>
<tr>
<td>✓</td>
<td>Clinical activity seen in 3/6 patients after 6 months</td>
</tr>
<tr>
<td>✓</td>
<td>50% disease control rate</td>
</tr>
</tbody>
</table>
ONCOS-102 in malignant pleural mesothelioma

DEVELOPMENT STRATEGY AND INDICATIVE TIMELINES

2018

- Ongoing
- Phase I/II, randomized
- 30 patients

2019

- Randomized ORR and OS data 30 patients
- Decide on possible CPI combination arm
- EMA & FDA advisory meetings

2020

- Planned
- Expansion of randomized Phase II
- ~60 additional patients (N=90)

2021

- Randomized ORR and OS data 90 patients
- Potentially use as basis for a submission for conditional approval

2022

- Future
- Phase III
- n=TBD
- Potentially start Phase III OS trial for full MAA
3 TG mutRAS neoantigen vaccine

4. Targovax pipeline
5. Corporate overview
The RAS gene is mutated in
90% OF PANCREATIC AND 50% OF COLORECTAL CANCERS

- RAS mutations are oncogenic and result in uncontrolled cell division
- There are no existing therapies targeting RAS mutations
- Targovax’ TG program is a unique vaccine approach for mutant RAS cancer

Fernandez-Medarde; RAS in Cancer and Developmental Diseases; Genes & Cancer. 2011;2(3)
Mutated RAS is a well-defined, cancer-specific neo-antigen, driving the cancer.

**Historical lessons learned**

- **Target often poorly defined** and not cancer specific, mainly TAAs
- **No or insufficient immune activation** of the adaptive immune system
- Most clinical trials have been done in advanced disease

**The TG approach**

- Mutated RAS is a well-defined, cancer-specific neo-antigen, driving the cancer.
- TG peptides are clinically proven to induce both CD4+ and CD8+ mutRAS T-cells
- Initial focus on resected patients, with stronger immune system
TG CLINICAL DEVELOPMENT STRATEGY

1. Resected pancreatic cancer
   - TG01 indication
     - Ph I/II completed
     - Next steps currently being reassessed
     - ~40,000 incidents

2. Colorectal cancer
   - TG02 lead indication
     - Ph I trial ongoing
     - 50% mutRAS
     - ~0.5m incidents

3. Lung cancer (NSCLC)
   - TG02 potential future indication
     - 30% mutRAS
     - ~0.5m incidents

4. All mutRAS cancers
   - TG02 + TG03 long-term potential
     - Up to 30% of all cancer patients

Source: Global data, Riva et al. Plos One 2017
Estimated total addressable patient number with RAS mutations in US, EU and China
TG CLINICAL PROGRAM OVERVIEW

Phase I & II
>200 patients

Phase I/II Resected pancreatic cancer
32 patients

Colorectal - TG02 Phase I

- Biomarker study
- Combination w/KEYTRUDA®

Currently reassessing opportunities for new trials to drive value creation on TG program

Completed trials | Ongoing trials | Planned trial
4 Targovax pipeline

5. Corporate overview
## Targovax overall

### CLINICAL PROGRAM TIMELINES

<table>
<thead>
<tr>
<th>Cancer Indication</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
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<tbody>
<tr>
<td><strong>ONCOS-102</strong></td>
<td>H1</td>
<td>H2</td>
<td>H1</td>
</tr>
<tr>
<td>Mesothelioma</td>
<td></td>
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<tr>
<td><strong>Melanoma</strong></td>
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<tr>
<td><em>Peritoneal malignancies</em></td>
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<tr>
<td>Collaboration w/CRI, Ludwig &amp; MedImmune</td>
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<tr>
<td><em>Prostate</em></td>
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<tr>
<td>Collab. w/Sotio</td>
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<tr>
<td><strong>Resected Pancreas</strong></td>
<td>Phase I/II</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Colorectal</strong></td>
<td>Phase Ib</td>
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- **Interim data**
- **Clinical, immune and safety data**
- **Ongoing clinical trials, Targovax sponsored**
- **Ongoing clinical trials, partner sponsored**
ACTIVATING THE PATIENT`S IMMUNE SYSTEM to fight cancer

**Oncolytic virus lead product**
- Strong single agent data
- Several upcoming data points

**Defined path to market**
- Aim to become frontline treatment in mesothelioma
- Orphan drug designation

**Innovative pipeline**
- Next gen double transgene viruses in testing
- Signal of efficacy for mutRAS neoantigen vaccine
Corporate overview
TARGOVAX HAS A SOUND FINANCIAL POSITION
with cash to complete the planned clinical program well into 2019

<table>
<thead>
<tr>
<th>Operations</th>
<th>The share</th>
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<tbody>
<tr>
<td>Cash end of Q1 - Mar 31st 2018</td>
<td>Market Cap - at share price NOK ~17</td>
</tr>
<tr>
<td>229 / 29</td>
<td>900 / 110</td>
</tr>
<tr>
<td>NOK million / USD million</td>
<td>NOK million / USD million</td>
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</tbody>
</table>

Net cash flow - total Q1
-32 / -4
NOK million / USD million

Annual run rate - last four quarters
113 / 15
NOK million / USD million

Daily turnover - rolling 6 month avg.
3 / 0.4
NOK million / USD million

Analyst coverage
DNB, ABG Sundal Collier, Arctic, Redeye, Norske Aksjeanalyser, Edison
THE SHAREHOLDER BASE IS STRONG
with a mix of specialist, generalist and retail investors

Key international investors participating in PP 2017
- Nyenburgh (NL)
- Trium (UK)
- Millenium Capital Partners (UK)
- Interogo (SWE)
- AP3 (SWE)
- Aramea AM (DE)

Shares and options
- 57.4m shares fully diluted
  - Average strike price on options ~NOK 20
  - Total dilutive effect of options is 8.1%
- 52.6m ordinary shares
  - Management ownership: 0.3%
  - >4,100 shareholders