Arming the patient’s immune system to fight cancer

Q1 2017 presentation

April 25th 2017
Important notice and disclaimer

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.
First quarter highlights

Data
- Encouraging top line two-year survival data from the phase I/II TG01 clinical trial in resected pancreatic cancer, with 68% of patients still alive after 2 years

Share listing
- Targovax upgraded its share listing from Oslo Axess to the main Oslo Stock Exchange list (OSE)
- Average daily share liquidity increased from NOK 9m to 13m relative to Q4 2016

Finances
- Cash NOK 147m
- Operating expenses NOK 27m
- Net cash flow NOK -24m

People
- Erik Digman Wiklund appointed CFO, starting April 1st 2017

Post-period
- Targovax will present clinical data from the TG01 clinical trial in resected pancreatic cancer at the ASCO Annual Meeting in June
- The exploratory Phase Ib clinical trial in locally recurrent RAS-mutated colorectal cancer was initiated

* PoC = Proof of Concept
TG01 phase I/II resected pancreatic trial

Encouraging top line two-year survival data
TG background – “reasons to believe”

- **History**
  - 120 patients treated with TG peptides in 1990’s
  - Encouraging 10 year long-term survival for resected patients treated with TG01 or single TG peptides

- **RAS**
  - RAS mutations are well-known and characterized neoantigens
  - Regulate cell proliferation; mutations cause abnormal cell growth - the definition of cancer itself
  - Exclusively found in cancer cells

- **TG-peptides**
  - Unique peptides of 17 amino acid chain length activate both RAS specific CD4+ and CD8+ T cells, which recognize and destroy mutated RAS cancer cells

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1 Wedén et al, 2011 and Clinical trial reports
<table>
<thead>
<tr>
<th></th>
<th>First Cohort</th>
<th>Modified Cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Immunization schedule</td>
<td>• 26 vaccinations over 2 years</td>
</tr>
<tr>
<td>2</td>
<td>Patient population</td>
<td>• Cohort completed</td>
</tr>
<tr>
<td>3</td>
<td>Immune activation</td>
<td>• DTH response: 15 of 18</td>
</tr>
<tr>
<td>4</td>
<td>Interim 1-year survival</td>
<td>• T-cell response: 6 of 8</td>
</tr>
<tr>
<td>5</td>
<td>2-year survival</td>
<td>• 14 of 15 patients alive after 1 year</td>
</tr>
<tr>
<td>6</td>
<td>• 13 of 19 patients (68%) alive after 2 year</td>
<td>• Published historical rate 30-53% suggests a signal of clinical efficacy for TG01</td>
</tr>
<tr>
<td></td>
<td><strong>13 of 19 patients (68%) alive after 2 year</strong></td>
<td>• 1H18</td>
</tr>
<tr>
<td></td>
<td>• Published historical rate 30-53% suggests a signal of clinical efficacy for TG01</td>
<td>• Not yet available</td>
</tr>
</tbody>
</table>

1. ITT – Intention to treat
2. J Neoptolemos 2010, J van Loethem 2010, H Oettle 2013, M Sinn 2015, K Uesaka 2016 (In these reported studies overall survival is measured either from surgery or treatment randomization).
Encouraging survival rate and “signal” of efficacy in TG01 trial

CT TG01-01; A Phase I/II Trial of TG01 and Gemcitabine as Adjuvant Therapy for Treating Patients with Resected Adenocarcinoma of the Pancreas

- 68% (13 of 19) of the patients in cohort 1 were alive two years after the resection
  - Published historical rate 30-53% suggests a signal of clinical efficacy for TG01

- Abstract accepted for poster presentation at ASCO 2017 (June) from the 1st cohort
  - Efficacy, safety, immune activation

- Encouraging survival rate and “signal” of efficacy providing strong rationale and KOL support to move program forward

- Planning for a larger randomized controlled Phase II trial has been initiated

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1 J Neoptolemos 2010, J van Loethem 2010, H Oettle 2013, M Sinn 2015, K Uesaka 2016 (In these reported studies overall survival is measured either from surgery or treatment randomization).
ONCOS-102 phase I Melanoma trial

Clinical proof of platform
Checkpoint inhibitors have revolutionized cancer treatment

Prior to Yervoy

4 weeks

8 weeks

20 weeks

8 months

1 year
Checkpoint inhibitor refractory patients have a large unmet medical need for effective treatment

Response rate to checkpoint inhibitors (CPIs)

<table>
<thead>
<tr>
<th>Disease</th>
<th>Responders</th>
<th>Non-responders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melanoma</td>
<td>~40%</td>
<td></td>
</tr>
<tr>
<td>Renal Cell carcinoma</td>
<td>~70%</td>
<td></td>
</tr>
<tr>
<td>Triple Negative Breast</td>
<td>~70%-80%</td>
<td></td>
</tr>
<tr>
<td>Lung Carcinoma (NSCLC)</td>
<td>~80%</td>
<td></td>
</tr>
<tr>
<td>Head and Neck</td>
<td>~80%</td>
<td></td>
</tr>
<tr>
<td>Bladder</td>
<td>~84%</td>
<td></td>
</tr>
</tbody>
</table>

ONCOS-102 can potentially activate non-responders to become susceptible to CPI's
ONCOS-102 increased tumor infiltrating CD8+ T-cells in 11 of 12 cancer patients with a range of solid tumors.

- **6 patients** showed 2- to 5-fold increase.
- **5 patients** showed >8-fold increase.
- **Only 1 patient** showed no response.
ONCOS-102: CPI refractory melanoma trial details

- **Setting**
  - Advanced malignant melanoma patients not responding to CPIs
  - Immune activate patients with ONCOS-102, then re-challenge with a CPI (Keytruda®)

- **Cohorts**
  - Six patients with prior PD1 monotherapy
  - Six patients with prior PD1 plus Yervoy combination therapy

- **Key endpoints**
  - Safety
  - Immune activation
  - Clinical response data

- **Sequence**
  - ONCOS-102 – 3 weeks
  - Keytruda – 5 months

Yervoy – generic name: ipilimumab
Keytruda – generic name: pembrolizumab
How does ONCOS-102 work?

**At the tumor:**
Virus injected directly into tumor, replicates, lyses cells and releases antigens. Immune system picks up antigens.

**At the lymph node:**
Immune system starts production of tumor specific T-cells.

**At the tumor lesions:**
T-cells find tumor lesions with corresponding tumor antigens and kill the cancer cells.
Initial ONCOS-102 trial showed strong T-cell response

Evidence that immune system recognizes tumor threat

- Innate Immune System (biopsy)
  - Induction of proinflammatory cytokines + fever (all patients)
  - Infiltration of innate immune cells into tumors in 11 out of 12 patients

Evidence that T-cells find the tumor and are cell killing

- Adaptive immune system (biopsy)
  - Increase in T-cell infiltration into tumors (including CD8+ killer T-cells) in 11 out of 12 patients
  - Observation in one non-injected distant metastasis

Evidence of production of tumor antigen specific T-cells

- Anti-tumor immune response (blood)
  - Systemic induction of tumor-specific CD8+ T-cells

- Scatterplot of ranks

Correlation between post-treatment increase in innate immune cells and OS

Correlation between post-treatment increase in CD8+ T-cells and OS (p=0.008, R=0.74)

- Ovarian patient: NY-ESO-1, MAGE-A1, MAGE-A3, and Mesothelin specific CD8+ cells

- Mesothelioma patient: MAGE-A3 specific CD8+ cells

- Associated with clinical benefit

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Evidence that immune system recognizes tumor threat

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- Mesothelioma patient: MAGE-A3 specific CD8+ cells

- Associated with clinical benefit

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## Six shots on goal

<table>
<thead>
<tr>
<th>Cancer indication</th>
<th>Combined with</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melanoma</td>
<td>CPI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mesothelioma</td>
<td>Chemo* Orphan design.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ovarian &amp; Colorectal</td>
<td>CPI Orphan design. Sponsor: Ludwig</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prostate</td>
<td>DC therapy Sponsor: Sotio</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ONCOS-102**

**TG**

| Resected Pancreatic       | Chemo* Orphan design.      |       |       |       |
| Colorectal                | CPI                        |       |       |       |

*In combination with Standard of Care Chemotherapy. Pemetrexed/cisplatin for Mesothelioma and Gemcitabine for Resected Pancreatic*

- **Interim data**
- **Clinical, immune and safety data**

**4 readouts** 2017

**5 readouts** 2018
Where are we with the clinical trials?

- Recruitment complete
- First patient first visit
- Site readiness
- External approval
- Protocol

| TG Pancreatic | TG Colorectal | ONCOS-102 Meso | ONCOS-102 Melanoma | ONCOS-102 Prostate | ONCOS-102 Ovarian |
Financial summary – end of Q1 2017

<table>
<thead>
<tr>
<th>Operations</th>
<th>NOK</th>
<th>USD</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>147m</td>
<td>17m</td>
<td></td>
</tr>
<tr>
<td>Net cash flow</td>
<td>-24m</td>
<td>3m</td>
<td></td>
</tr>
<tr>
<td>Annual run rate</td>
<td>104m</td>
<td>12m</td>
<td></td>
</tr>
<tr>
<td>Annual opex</td>
<td>116m</td>
<td>13m</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The share</th>
<th>OSE: TRVX</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Cap</td>
<td>NOK ~900m</td>
<td>USD ~100m</td>
<td>At share price NOK ~21</td>
</tr>
<tr>
<td>Daily turnover</td>
<td>NOK 14m</td>
<td>USD 1.6m</td>
<td>Last three months avg.</td>
</tr>
<tr>
<td>Debt</td>
<td>NOK 43m</td>
<td>USD 5m</td>
<td>EUR 6m conditional</td>
</tr>
<tr>
<td>No. of shares</td>
<td>42.2m</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>46.0m fully diluted per April 18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysts</td>
<td>DNB, ABG Sundal Collier, Arctic, Redeye, Norske Aksjeanalyser</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TRVX upgraded to the main list on OSE, and showed a positive trend in share turnover

*Development in daily average share turnover (NOK million / day)*

- NOK ~900m market cap
- NOK 14m NOK avg. daily turnover in last 3 months
- NOK 850m total turnover in Q1
- 560k shares avg. daily volume in Q1
- >3,500 owners
- 42.2m shares (46.0 fully diluted)
Multiple near term value inflection points

**2015**
- TG01: phase II initiated
- ONCOS-102: Initiate phase I/II mesothelioma

**2016**
- ONCOS-102: Initiate phase I/II prostate
- TG01 (1st cohort): Immune activation and MoA demo
- TG01 (2nd cohort): Interim data pancreas

**2017**
- TG01 (1st cohort): 2-year survival pancreas
- ONCOS-102: 2-year survival melanoma
- ONCOS-102: Interim data mesothelioma
- ONCOS-102: Interim data ovarian /colorectal
- TG02: Interim data colorectal

**2018**
- ONCOS-102: phase I/II data melanoma
- ONCOS-102: Interim data prostate
- TG02 (combo): phase I data colorectal

**Oslo Stock Exchange**
- Listing on OSE main list

**Notes:**
- TG02: Initiate phase Ib in colorectal
- TG01 (2nd cohort): Immune activation pancreas
- ONCOS-102: Interim data melanoma
Arming the patient’s immune system to fight cancer

1. Core focus on immuno-oncology
   - Two differentiated product platforms, oncolytic adenovirus (ONCOS-102) and RAS-peptide cancer vaccine (TG)
   - Targeting refractory solid tumors with combination trials

2. Proprietary platforms and pipeline
   - Promising Phase I/II data from both proprietary platform technologies, with clinically demonstrated immune activation and signal of efficacy

3. Multiple near term value inflection points
   - Six combination trials started or about to start (phase I & II)
   - All six trials read out in 2017-2018

4. Corporate
   - TRVX transferred to the OSE main list in Q1 2017
   - Strong increase in share turnover
   - Cash at approx. NOK 147m (USD 17m)
Appendix
## Financial Snapshot

<table>
<thead>
<tr>
<th>NOK m</th>
<th>1Q16</th>
<th>2Q16</th>
<th>3Q16</th>
<th>4Q16</th>
<th>1Q17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total revenue</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>External R&amp;D expenses</td>
<td>-11</td>
<td>-12</td>
<td>-11</td>
<td>-12</td>
<td>-9</td>
</tr>
<tr>
<td>Payroll and related expenses</td>
<td>-13</td>
<td>-12</td>
<td>-10</td>
<td>-13</td>
<td>-11</td>
</tr>
<tr>
<td>Other operating expenses</td>
<td>-7</td>
<td>-8</td>
<td>-4</td>
<td>-6</td>
<td>-7</td>
</tr>
<tr>
<td><strong>Total operating expenses</strong></td>
<td><strong>-31</strong></td>
<td><strong>-32</strong></td>
<td><strong>-25</strong></td>
<td><strong>-31</strong></td>
<td><strong>-27</strong></td>
</tr>
<tr>
<td>Operating loss</td>
<td>-31</td>
<td>-32</td>
<td>-25</td>
<td>-31</td>
<td>-27</td>
</tr>
<tr>
<td>Net financial items</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>-0</td>
</tr>
<tr>
<td>Loss before income tax</td>
<td>-32</td>
<td>-33</td>
<td>-26</td>
<td>-32</td>
<td>-27</td>
</tr>
<tr>
<td>Net change in cash</td>
<td>-33</td>
<td>-34</td>
<td>85</td>
<td>-21</td>
<td>-24</td>
</tr>
<tr>
<td><strong>Net cash EOP</strong></td>
<td><strong>141</strong></td>
<td><strong>107</strong></td>
<td><strong>193</strong></td>
<td><strong>172</strong></td>
<td><strong>147</strong></td>
</tr>
</tbody>
</table>
Strong shareholder base as per April 18th 2017

<table>
<thead>
<tr>
<th>Shareholder</th>
<th>Estimated ownership</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Shares m</td>
<td>Relative</td>
<td></td>
</tr>
<tr>
<td>HealthCap</td>
<td>Sweden</td>
<td>11,2</td>
<td>26,4 %</td>
</tr>
<tr>
<td>RadForsk</td>
<td>Norway</td>
<td>4,1</td>
<td>9,7 %</td>
</tr>
<tr>
<td>Nordea</td>
<td>Norway</td>
<td>3,0</td>
<td>7,2 %</td>
</tr>
<tr>
<td>KLP</td>
<td>Norway</td>
<td>1,6</td>
<td>3,7 %</td>
</tr>
<tr>
<td>Nordnet Livsforsikring</td>
<td>Norway</td>
<td>1,4</td>
<td>3,3 %</td>
</tr>
<tr>
<td>Statoil</td>
<td>Norway</td>
<td>0,9</td>
<td>2,2 %</td>
</tr>
<tr>
<td>Danske Bank (nom.)</td>
<td>Denmark</td>
<td>0,8</td>
<td>1,8 %</td>
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<tr>
<td>Timmuno AS</td>
<td>Norway</td>
<td>0,7</td>
<td>1,7 %</td>
</tr>
<tr>
<td>Prieta AS</td>
<td>Norway</td>
<td>0,7</td>
<td>1,7 %</td>
</tr>
<tr>
<td>Rasmussengruppen</td>
<td>Norway</td>
<td>0,7</td>
<td>1,7 %</td>
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<tr>
<td>Nordnet Bank AB (nom.)</td>
<td>Sweden</td>
<td>0,7</td>
<td>1,5 %</td>
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<td>Sundt AS</td>
<td>Norway</td>
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<tr>
<td>DNB</td>
<td>Norway</td>
<td>0,3</td>
<td>0,6 %</td>
</tr>
<tr>
<td>Avanza Bank AB (nom.)</td>
<td>Sweden</td>
<td>0,3</td>
<td>0,6 %</td>
</tr>
<tr>
<td>Thorendahl Invest AS</td>
<td>Norway</td>
<td>0,3</td>
<td>0,6 %</td>
</tr>
<tr>
<td>The Bank of NY Mellon (nom.)</td>
<td>Belgium</td>
<td>0,2</td>
<td>0,5 %</td>
</tr>
<tr>
<td>Netfonds Livsforsikring AS</td>
<td>Norway</td>
<td>0,2</td>
<td>0,5 %</td>
</tr>
<tr>
<td>Topech Invest AS</td>
<td>Norway</td>
<td>0,2</td>
<td>0,5 %</td>
</tr>
<tr>
<td>Istvan Molnar</td>
<td>Norway</td>
<td>0,2</td>
<td>0,4 %</td>
</tr>
<tr>
<td>Danske Bank (nom.)</td>
<td>Denmark</td>
<td>0,2</td>
<td>0,4 %</td>
</tr>
<tr>
<td><strong>Top 20</strong></td>
<td></td>
<td>27,8</td>
<td>65,9 %</td>
</tr>
<tr>
<td><strong>Other shareholders (3566)</strong></td>
<td></td>
<td>14,4</td>
<td>34,1 %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>42,2</td>
<td>100,0 %</td>
</tr>
</tbody>
</table>

42.2m ordinary shares
- Management ownership: 2.1%
- 3,586 shareholders

46.0m\(^1\) shares fully diluted
- Average strike price on options ~NOK 21
- Total dilutive effect of options is 7.9%

\(^1\) Includes outstanding options (3,634,263) and Restricted Stock Units (169,128) to Board members