Arming the patient’s immune system to fight cancer

3Q 2017 presentation

2 November 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.
Agenda

- 3Q 2017 Highlights
  - Program overview
  - TG mutRAS neo-antigen cancer vaccine platform
  - ONCOS-102 oncolytic virus platform
  - 3Q 2017 Financial highlights
Highlights from the third quarter 2017

- **Clinical trials**: Initiation of the phase I/II trial with ONCOS-102 in combination with durvalumab for patients with ovarian and colorectal cancer

- **Patents**: Granted US patent for the therapeutic use of the TG products in combination with anti-metabolite chemotherapy

- **Clinical data**: Three posters presented at the ESMO annual meeting in Madrid - European Society of Molecular Oncology

- **Financing**: Raised NOK 6.4m (USD 0.8m) in a subsequent offering in July, following the NOK 200m private placement in June

- **Post-period**: Reported one-year data for the 2nd cohort in the TG01 ph I/II trial in resected pancreatic cancer – in line with the 1st cohort
  
  Granted US patent for the 2nd generation product from the TG platform, TG02
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Immunotherapy has the potential to cure cancer

Patient example – Yervoy® checkpoint inhibitor trial

Prior to Yervoy®

1 year after
Most patients do not respond to currently available immunotherapies

Response rate to checkpoint inhibitors (CPIs)

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

Complimentary immune priming medicines may make tumors respond better to checkpoint inhibitors.
Targovax is developing two drugs to boost the effect of immunotherapy

**ONCOS-102**
- Genetically tailored **oncolytic adenovirus**
- **Selectively infects** and lyses cancer cells
- Triggers **tumor specific immune response**
- Phase I completed and **4 ongoing Phase I/II trials**

**TG01**
- Cocktail of synthetic peptides targeting **oncogenic RAS mutations**
- Generates **RAS-specific CD4+ and CD8+ T-cells**
- T-cells circulate and identify cancer cells displaying mutated RAS epitopes
- **Encouraging survival data** from Phase I/II trials in pancreatic cancer
# Clinical program and upcoming data read-outs

<table>
<thead>
<tr>
<th>Cancer indication</th>
<th>Combined with</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>H1</td>
<td>H2</td>
<td>H1</td>
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<tr>
<td>Melanoma</td>
<td>CPI</td>
<td></td>
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<tr>
<td>Mesothelioma</td>
<td>Chemo* Orphan ind.</td>
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<tr>
<td>Ovarian &amp; Colorectal</td>
<td>CPI Orphan ind. Sponsor: Ludwig</td>
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<tr>
<td>Prostate</td>
<td>DC therapy Sponsor: Sotio</td>
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<tr>
<td>Resected Pancreatic</td>
<td>Chemo* Orphan ind.</td>
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<tr>
<td>Colorectal</td>
<td>CPI</td>
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<table>
<thead>
<tr>
<th>Indicative timing of:</th>
<th>4 readouts</th>
<th>5 readouts</th>
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</thead>
<tbody>
<tr>
<td>Interim data</td>
<td>2017</td>
<td>2018</td>
</tr>
<tr>
<td>Clinical, immune and safety data</td>
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</tbody>
</table>

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

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The five year survival rate for pancreatic cancer patients has not improved since the 1970s

SOURCE: Cancer Research UK, graphic adapted from The Economist September 16 2017
In earlier trials, TG vaccination has shown 20% 10-year survival in retrospective analyses.

10 year survival in historical TG trials in resected pancreatic cancer (n=20, TG monotherapy)\(^1\)

\(^1\) Wedén et al., 2011

\(^2\) Oettle H et al., JAMA 2013, vol 310, no 14
Targovax was set up to validate the TG concept in a modern setting with adjuvant chemotherapy

Ongoing Phase I/II trial in resected pancreatic cancer with adjuvant Gemcitabine (SoC)

<table>
<thead>
<tr>
<th>Start of treatment</th>
<th>Treatment month</th>
<th>Booster vaccinations for the rest of the study (2 years total study duration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st cohort 19 patients</td>
<td>1: Induction treatment</td>
<td>up to 9 boosters</td>
</tr>
<tr>
<td>2nd cohort 13 patients</td>
<td>2: Gemcitabine chemotherapy</td>
<td>up to 10 boosters</td>
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<tr>
<td>3: Gemcitabine chemotherapy</td>
<td></td>
<td></td>
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<tr>
<td>4: Gemcitabine chemotherapy</td>
<td></td>
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<tr>
<td>5: Gemcitabine chemotherapy</td>
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<td>6: Gemcitabine chemotherapy</td>
<td></td>
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<tr>
<td>7: Gemcitabine chemotherapy</td>
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</tbody>
</table>

- 32 patients in 2 cohorts
- Single arm design, no control group
- The cohorts have different dosing regimens
- Chemo given with/wo TG
- TG booster injections up to 2 years post surgery
Survival, immune activation and safety data from the ongoing TG trial is so far very encouraging

1st cohort (19 patients)
- Median survival 33.1 months vs. 27.6 for historical control\(^1\)
- 13 of 19 patients (68%) alive 2 years after surgery, historical control 2 year OS range from 30-53%\(^2\)

2nd cohort (13 patients)
- 13 of 13 patients (100%) alive 1 year after surgery

mutRAS immune response (1 yr)
- 1st cohort 18/19 patients (95%) had immune activation
- 2nd cohort 11/13 patients (85%) had immune activation

Safety
- TG01 and gemcitabine combination treatment is well-tolerated
- Four allergic reactions reported in 1st cohort, none in 2nd cohort (up to 1 year)

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1: Based on ESPAC-4 reported 25.5 months median OS from randomisation, adding median time from surgery to randomization of 64 days (2.1 months)
2: Relevant historical control trials, not including ESPAC-4, which did not report 2 year OS
TG01 data in context
Ref. Prof. Daniel Palmer, London, June 2017

Comparative survival rates across trials in resected pancreatic cancer

NOTE: Relative survival curves across studies (ESPAC), meant for indicative comparisons only.
Immunological response (DTH) to TG01 is associated with increased survival in non-resectable pancreatic cancer

Observational study of 25 patients receiving 12 vaccinations during 1 year

<table>
<thead>
<tr>
<th>Advanced pancreatic cancer</th>
<th>Evaluable patients</th>
<th>Median survival (from 1st vaccination)</th>
<th>1 year survival (from 1st vaccination)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG01/GM-CSF (mono-therapy)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Detected immune response</td>
<td>14 / 25 (56%)</td>
<td>5.2 months</td>
<td>3 (21%)</td>
</tr>
<tr>
<td>Not detected Immune response</td>
<td>11 / 25 (44%)</td>
<td>3.6 months</td>
<td>1 ( 9%)</td>
</tr>
</tbody>
</table>

Ref. ESMO 2017
Clinical development overview for the TG program

Historical trials
- Phase I
  - Resected & non-resected
  - >200 patients
- Resected pancreatic cancer
  - 32 patients
- 10 year survival data
- Correlation between immune response and survival
- Large safety database

Completing trial
- Phase I/II
  - Resected pancreatic cancer
  - 32 patients
- Encouraging median survival
- 2nd cohort 2 year data 1H 2018

Planned / recruiting trials
- Resected pancreas
  - TG01 - Phase IIb/III
  - n = tbd
  - Ph IIb-III adaptive design
  - Aimed to reach registration
  - Currently seeking collaboration opportunities
- Colorectal - TG02
  - Phase I
  - 20 patients
  - TG02, targets 8 mutations
  - Combination w/KEYTRUDA®
  - Currently recruiting patients
How TG is different from other peptide vaccine approaches, and may succeed where others have failed

**Lessons Learned**

- **Target often poorly defined and not cancer specific**
- **Insufficient immune activation of CD4+ helper and CD8+ killer T-cells**
- **Depot-forming adjuvants not suitable, as activated T-cells return to depot instead of tumor site**

**The TG approach**

- Mutated RAS is a well-defined neo-antigen, and a driving cause of cancer
- TG peptides are designed and proven to induce both CD4+ helper and CD8+ killer mutRAS-specific T-cells
- Non depot-forming immune modulator GM-CSF used as adjuvant to stimulate strong, systemic T-cell response
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Targovax has initiated a broad clinical program to test the clinical benefit of ONCOS-102

- **Compassionate use program**
  - Finland
  - 115 patients
  - Testing within ATAP EU program
  - Individual clinical responses
  - Reassuring safety data

- **Initial Phase I trial**
  - Solid tumors
  - 7 indications
  - 12 refractory patients
  - Monotherapy
  - Correlation between immune activation and survival

- **Melanoma**
  - Phase I
  - 12 patients
  - Combination with PD-1 CPI in refractory patients
  - Proof-of-concept
  - Memorial Sloan Kettering

- **Mesothelioma**
  - Phase I/II - controlled
  - 30 patients
  - Combination with chemo
  - Randomized controlled trial
  - Ultra-orphan indication

- **Ovarian / colorectal**
  - Phase I/II - controlled
  - 78 patients
  - Collaboration with Ludwig & CRI
  - Combination with Medimmune’s durvalumab (Imfinzi™)
  - Randomized controlled trial

- **Prostate**
  - Phase I
  - 10 patients
  - Partnered with SOTIO
  - Combination with DC therapy

- **Ovarian / colorectal**
  - Phase I/II - controlled
  - 78 patients
  - Combination with Medimmune’s durvalumab (Imfinzi™)
  - Randomized controlled trial
ONCOS-102 in melanoma – 70% reduction in tumor volume with KEYTRUDA® combination in mouse model

Effect of ONCOS-102 and KEYTRUDA® in humanized mouse melanoma model, change in tumor volume

Tumor volume reduction vs. vehicle control
% change by Day 40:

- ONCOS-102 only: 52% reduction
- ONCOS-102 + Keytruda (200): 61% reduction
- ONCOS-102 + Keytruda (400): 69% reduction
The mouse data support the scientific rationale of the ongoing clinical melanoma study with ONCOS-102 and KEYTRUDA®

- **Reduction in tumor volume**
  - ONCOS-102 + KEYTRUDA® (high) reduced volume by 69%
  - ONCOS-102 alone reduced tumor volume by 51%
  - KEYTRUDA® alone did not reduce tumor volume

- **CD8+ T-cell infiltration**
  - ONCOS-102 + KEYTRUDA® >2-fold increase in CD8+ T-cell count in tumor (vs. neg. control and vs. KEYTRUDA® alone)
  - KEYTRUDA® alone – no change

- **Conclusions**
  - Synergistic anti-tumor effect of ONCOS-102 + KEYTRUDA®
  - ONCOS-102 primes the immune system and enhances response to KEYTRUDA®
In Q3, a large trial combining ONCOS-102 and the PD-L1 CPI durvalumab in ovarian and colorectal cancer was initiated.

**Indication**
- Ovarian cancer – 42 patients
- Colorectal cancer – 36 patients
- Safety lead-in – 6 patients

**Route of administration**
- Intraperitoneal administration via catheter

**Combination**
- MedImmune’s PD-L1 checkpoint inhibitor durvalumab (Imfinzi™)

**Partners and sponsor**
- Funded by Cancer Research Institute (CRI)
- Sponsored by Ludwig Cancer Research
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Targovax has a sound financial position, with cash to complete the planned clinical program into 2019

Raised NOK 206 million in private placement June/July 2017
10,000,000 new shares @ NOK 20 per share

<table>
<thead>
<tr>
<th>Operations</th>
<th>NOK 286m</th>
<th>USD 36m</th>
<th>Sep 30th 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash end of Q3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net cash flow</td>
<td>NOK -24m</td>
<td>USD -3m</td>
<td>Total Q3</td>
</tr>
<tr>
<td>Annual run rate</td>
<td>NOK 106m</td>
<td>USD 13m</td>
<td>Last four quarters</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>The share</th>
<th>OSE: TRVX</th>
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<tbody>
<tr>
<td>Market Cap</td>
<td>NOK 930m</td>
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<tr>
<td>Daily turnover</td>
<td>NOK 5m</td>
</tr>
<tr>
<td>Analysts</td>
<td>DNB, ABG Sundal Collier, Arctic, Redeye, Norske Aksjeanalyser, Edison</td>
</tr>
</tbody>
</table>

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Targovax is listed on the main board on the Oslo Stock Exchange, with average daily liquidity of NOK 3.5m

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

- NOK ~930 m market cap
- NOK 5m NOK avg. daily turnover in last 6 months
- NOK 197m total turnover in 3Q
- 160k shares avg. daily volume in 3Q
- >4,800 owners
- 52.6m shares* (56.2 fully diluted)

* Up until 31st Oct
The shareholder base is strong, with a mix of specialist, generalist and retail investors

<table>
<thead>
<tr>
<th>Shareholder</th>
<th>Estimated ownership</th>
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<tbody>
<tr>
<td></td>
<td>Shares m</td>
<td>Relative</td>
</tr>
<tr>
<td>HealthCap</td>
<td>Sweden</td>
<td>12,4</td>
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<tr>
<td>Nordea</td>
<td>Norway</td>
<td>4,7</td>
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<tr>
<td>RadForsk</td>
<td>Norway</td>
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<tr>
<td>KLP</td>
<td>Norway</td>
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<tr>
<td>Stabil</td>
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<tr>
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<td>The Bank of NY Mellon (nom.)</td>
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<tr>
<td><strong>Top 20</strong></td>
<td></td>
<td><strong>31,0</strong></td>
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<tr>
<td><strong>Other shareholders (4160)</strong></td>
<td></td>
<td><strong>21,6</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>52,6</strong></td>
</tr>
</tbody>
</table>

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

- **56.2m shares fully diluted**
  - Average strike price on options ~NOK 21
  - Total dilutive effect of options is 6.3%

- **52.6m ordinary shares**
  - Management ownership: 1.7%
  - >4,800 shareholders
Planned strong news flow with 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 melanoma
- TG02: Immune activation and MoA demo
- TG01 (1st cohort): Interim data pancreas
- TG01 (2nd cohort): Immune activation pancreas

**2017**
- Oslo Stock Exchange: Listing on OSE main list
- H1: ONSCOS-102: Initiate phase I/Ovarian/colorectal
- ONCOS-102: 2-year survival pancreas
- TG01 (1st cohort): 2-year survival pancreas

**2018**
- H1: ONCOS-102: Initiate phase I prostate
- ONCOS-102: Interim data melanoma
- TG01 (2nd cohort): Interim data colorectal
- ONCOS-102: Interim data ovarian/colorectal
- TG02 (mono): Interim data colorectal
- TG02 (combo): phase I/II data colorectal