



Arming the patient's immune system to fight cancer

2Q & 1H 2017 presentation

August 24th 2017



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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.

Highlights from the 1st half of 2017

Clinical data

- **Signal of efficacy of TG01 in resected pancreatic cancer**
 - 68% of patients alive after 2 years
 - Median survival of 33.1 vs. 27.6 months for standard of care (historical control, ESPAC4 2017)
 - Data presented at the ASCO conference

Clinical trials

- **First patient recruited in both ONCOS-102 CPI-refractory melanoma and TG02 colorectal cancer trials**

Share listing

- **TRVX share upgraded from Oslo Axess to the main list on the Oslo Stock Exchange (OSE)**

Financing

- **Raised NOK 200m (USD 25m) in a private placement in June**
 - 1/3 allocated to international investors, including biotech specialists

Post-period

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

Agenda

○ **Introduction to immunotherapy**

○ ONCOS-102 oncolytic virus platform

○ TG neo-antigen cancer vaccine platform

○ Targovax clinical program overview

○ Financial highlights

Immunotherapy has the potential to cure cancer

Real world example – Patient in a Yervoy checkpoint inhibitor trial



Prior to Yervoy



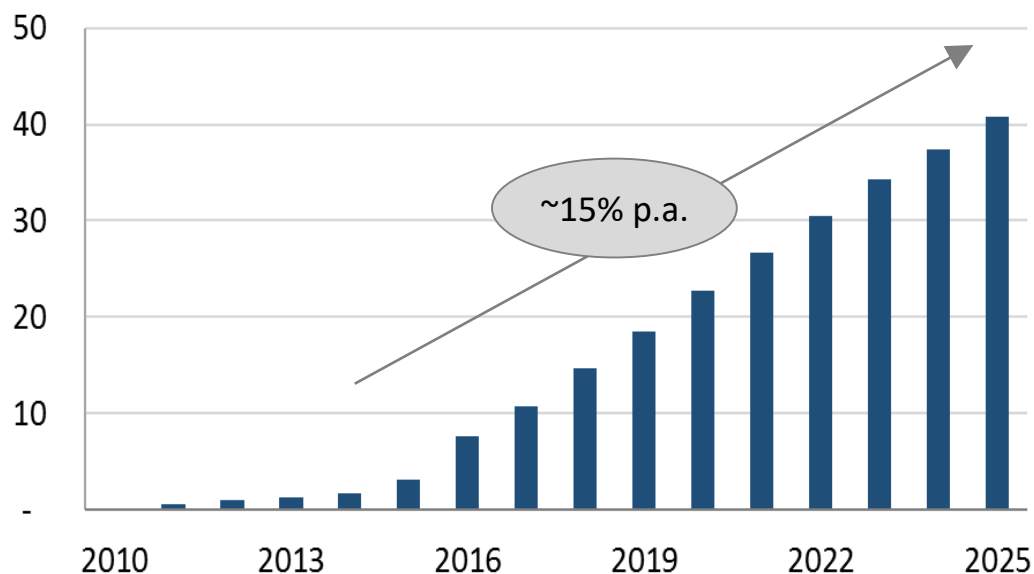
1 year after

The immunotherapy market is expected to boom over the next 10 years



Science, December 2013

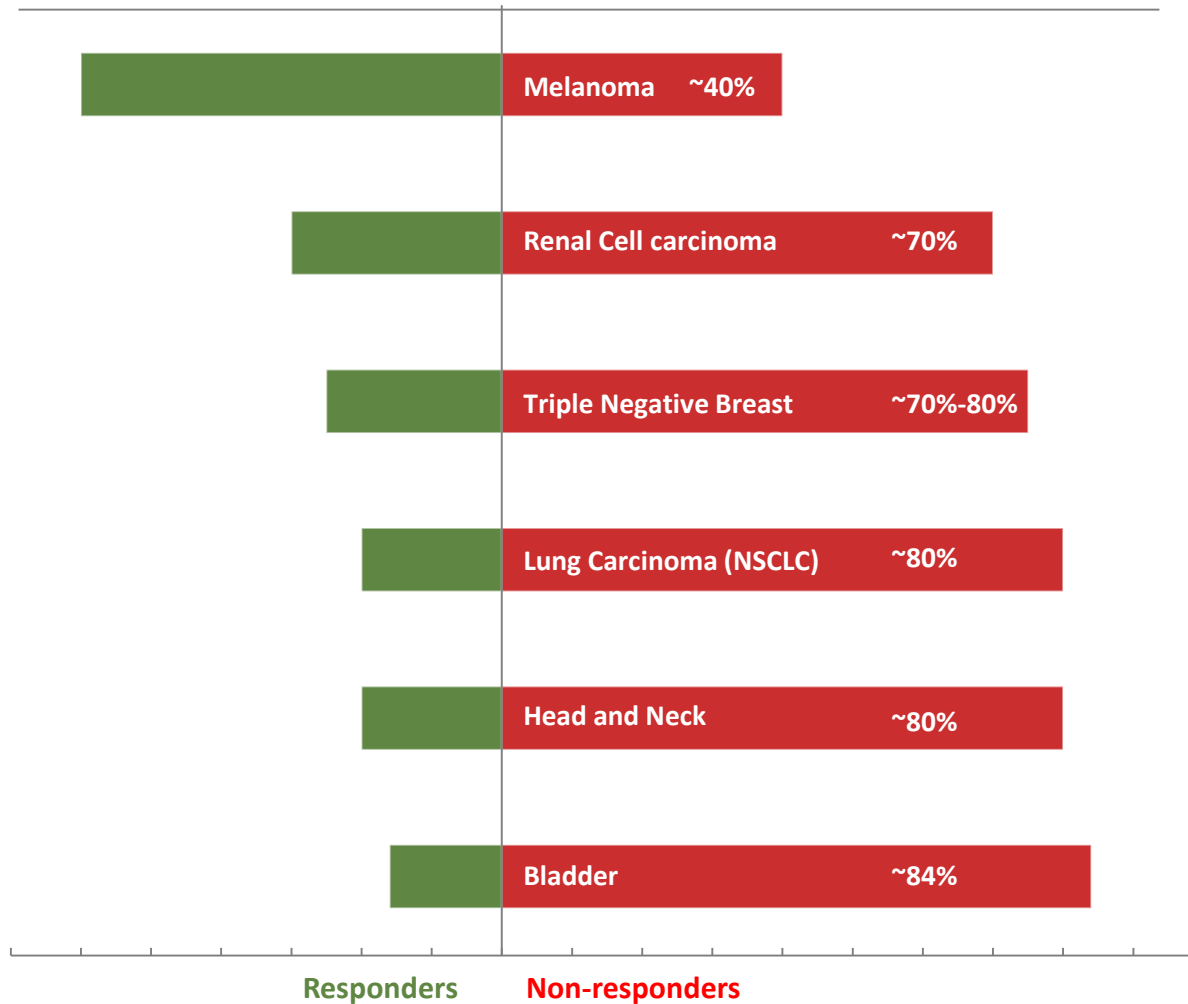
Estimated market size by major analysts (\$Bn)*



*Citi Research, Barclays Capital, Leerink Swann, BMO Capital Markets

Most patients do not respond to currently available immunotherapies

Response rate to checkpoint inhibitors (CPIs)

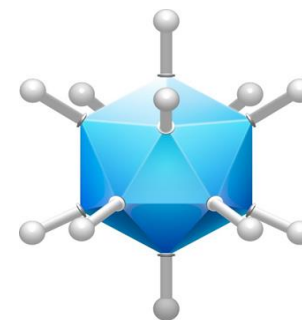


*Complimentary
immune priming
medicines may make
tumors **respond
better to checkpoint
inhibitors***

Targovax is developing two drugs to boost the effect of immunotherapy

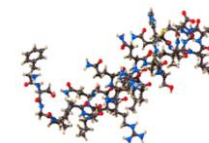
ONCOS-102 Oncolytic virus

- Genetically tailored Adenovirus
- Selectively infects and lyses cancer cells
- Releases cancer antigens
- Triggers immune response



TG01 Neoantigen vaccine

- Cocktail of 7 synthetic peptides acting as antigens to clinically relevant RAS mutations
- Generates RAS-specific T-cells
- T-cells kill RAS mutated cancer cells



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- Introduction to immunotherapy

- **ONCOS-102 oncolytic virus platform**

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ONCOS-102 makes tumors visible to the immune system

Activate immune system:

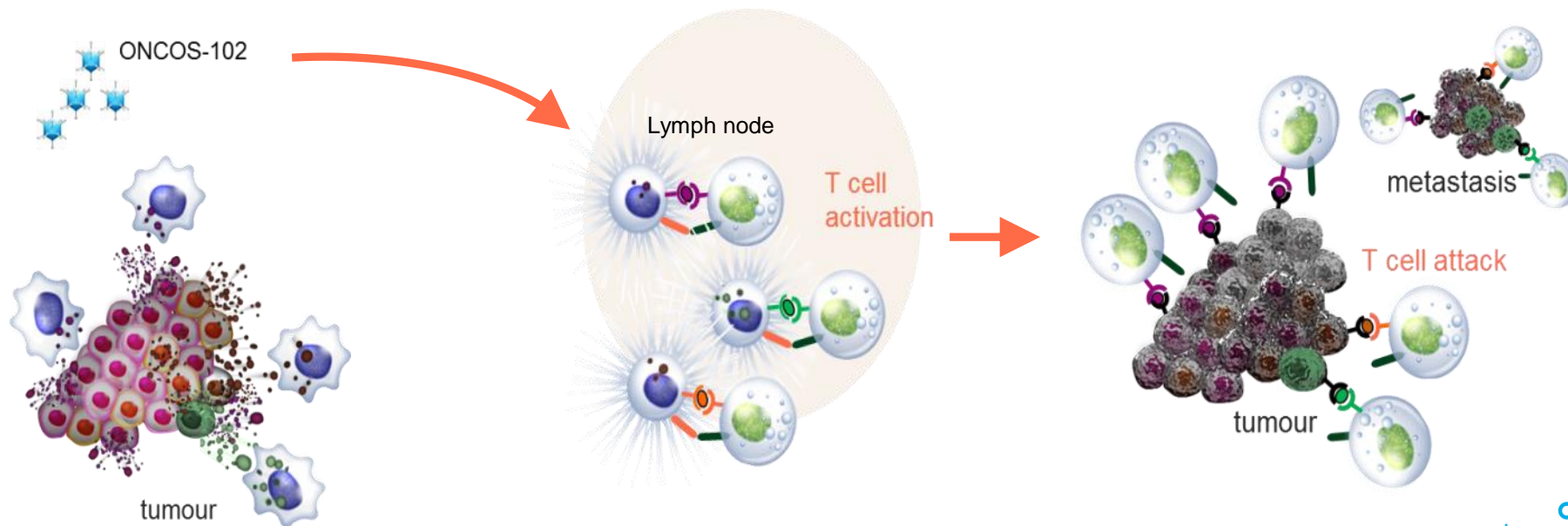
- Virus injected directly into the tumor / peritoneum
- Infected cells lyse and release cancer-specific antigens

Train T-cells:

- APCs present tumor specific antigens at lymph nodes
- Production of tumor specific T-cells

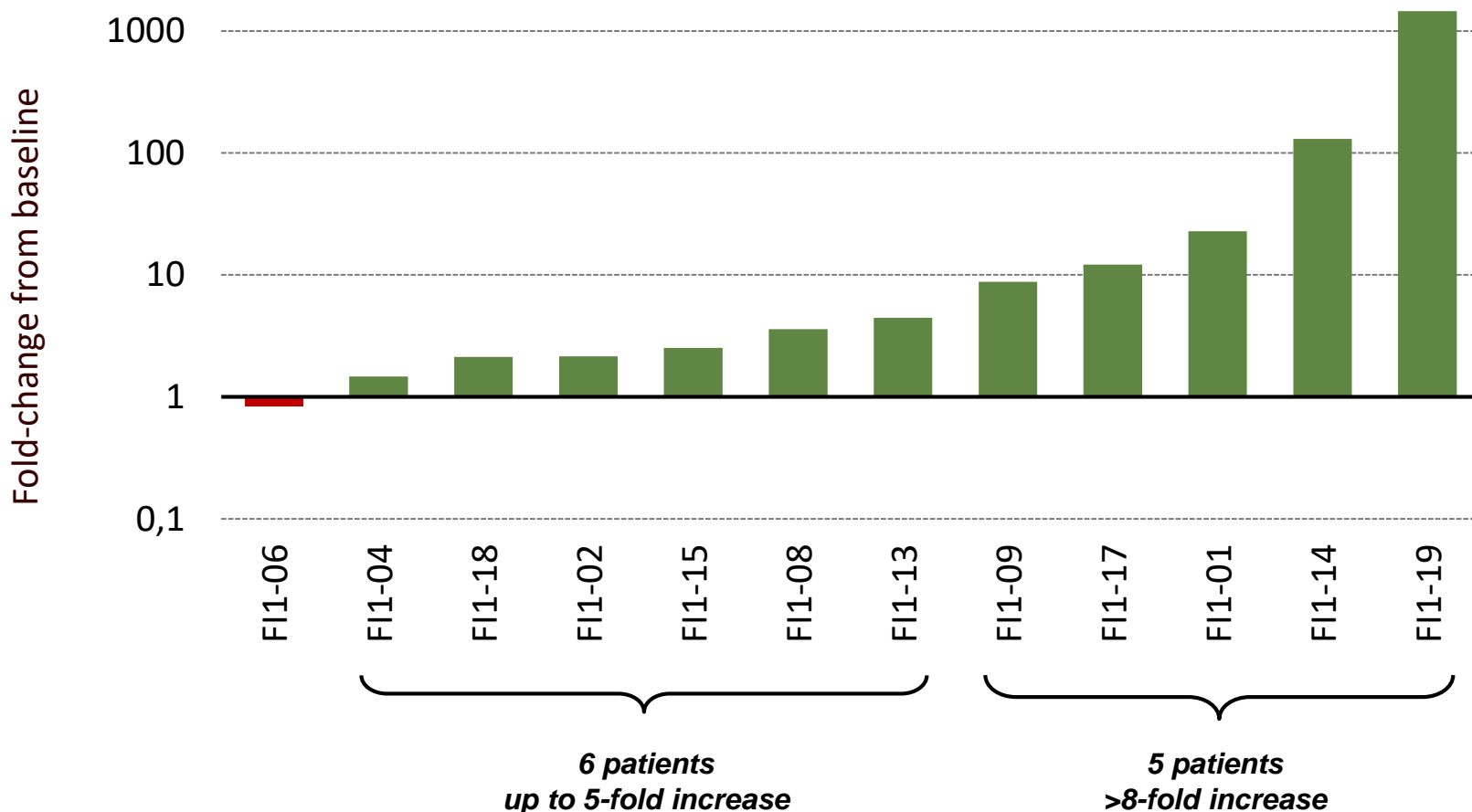
Attack the cancer:

- Tumor specific T-cells circulate in the body
- Identify lesions and kill the cancer cells

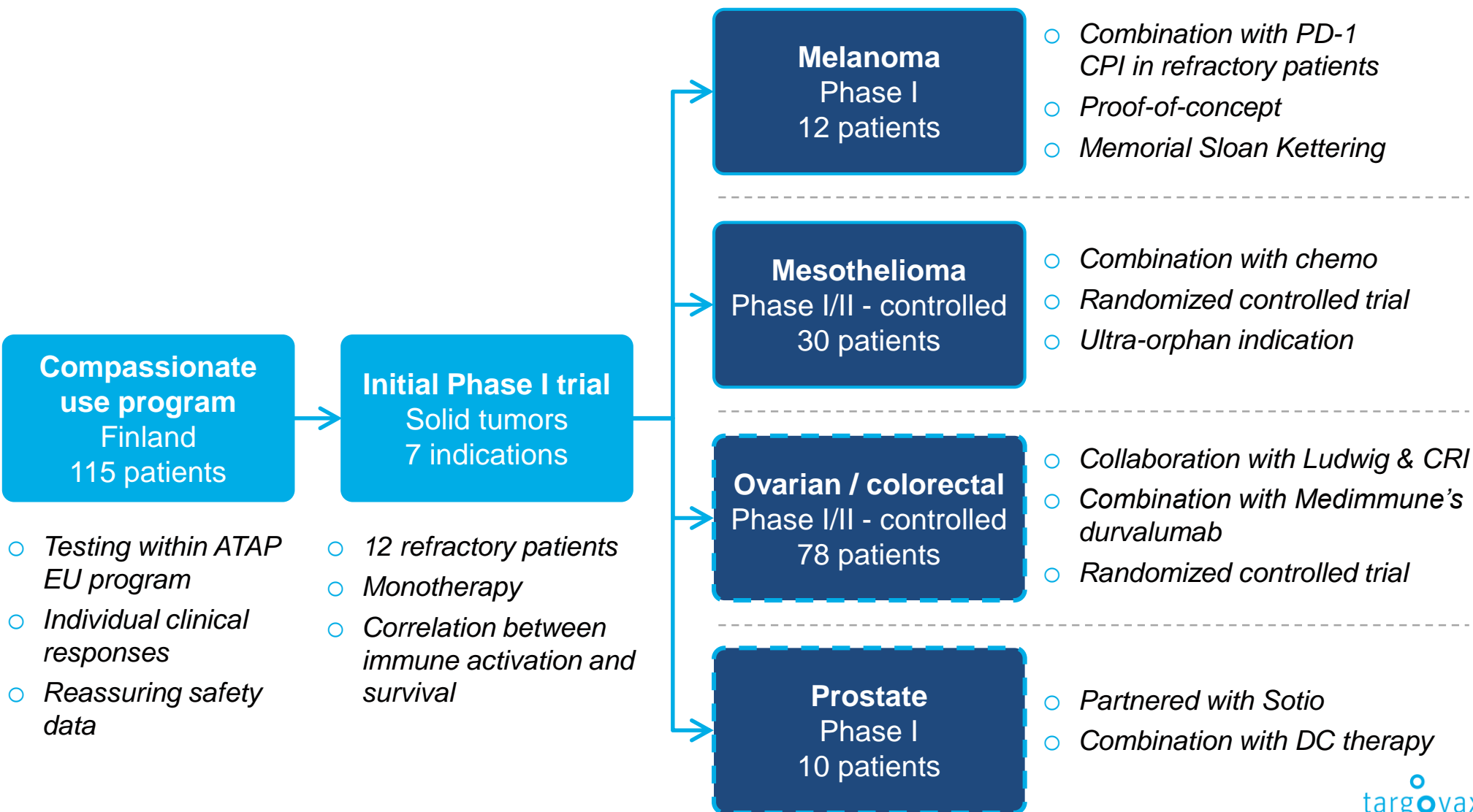


Phase I trial data in solid tumors: ONCOS-102 can make tumors hot

Change in CD8+ T-cell count after treatment with ONCOS-102



Targovax has initiated a broad clinical program to test the clinical benefit of ONCOS-102



Agenda

- Introduction to immunotherapy
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- ONCOS-102 oncolytic virus platform
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- **TG neo-antigen cancer vaccine platform**
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- Targovax clinical program overview
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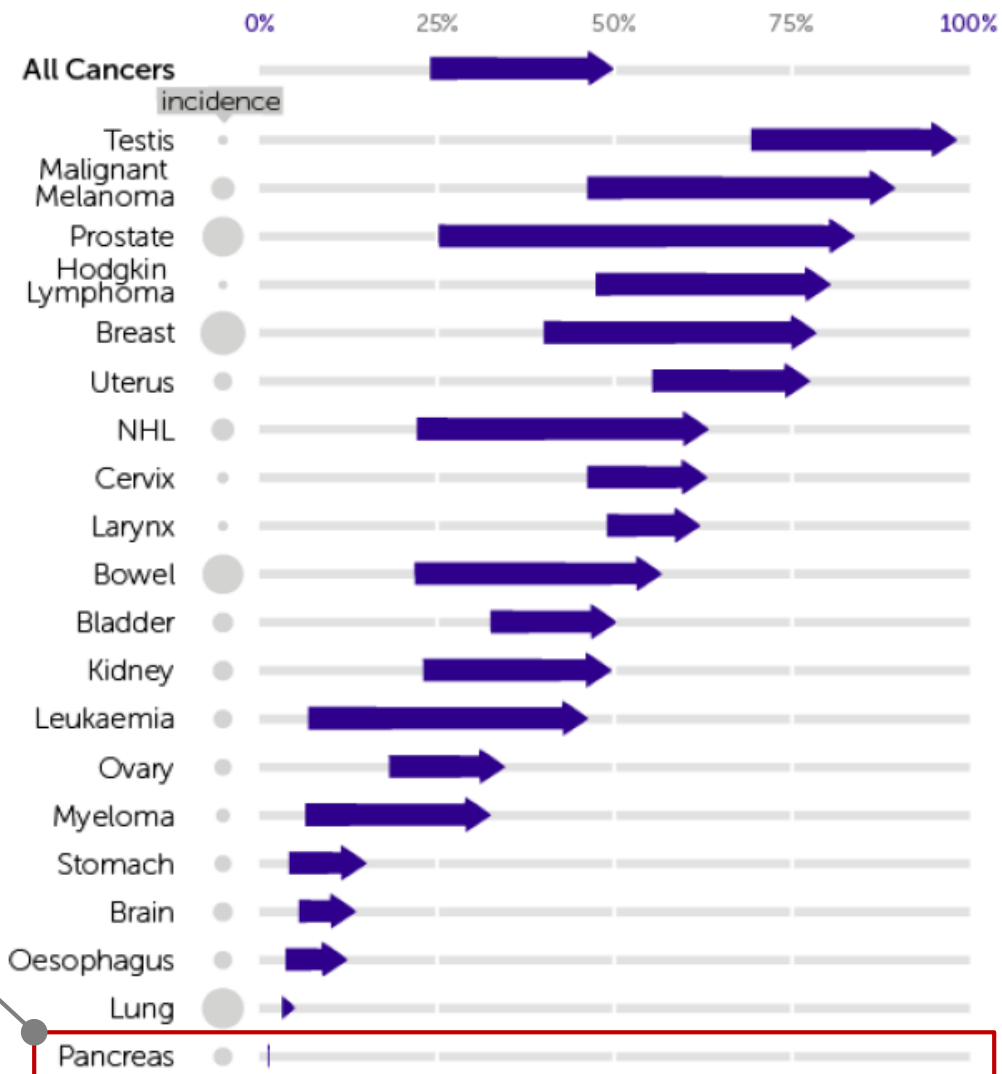
- Financial highlights

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

Improvement in 10 year survival rate
% change over 40yrs. 1972–2012

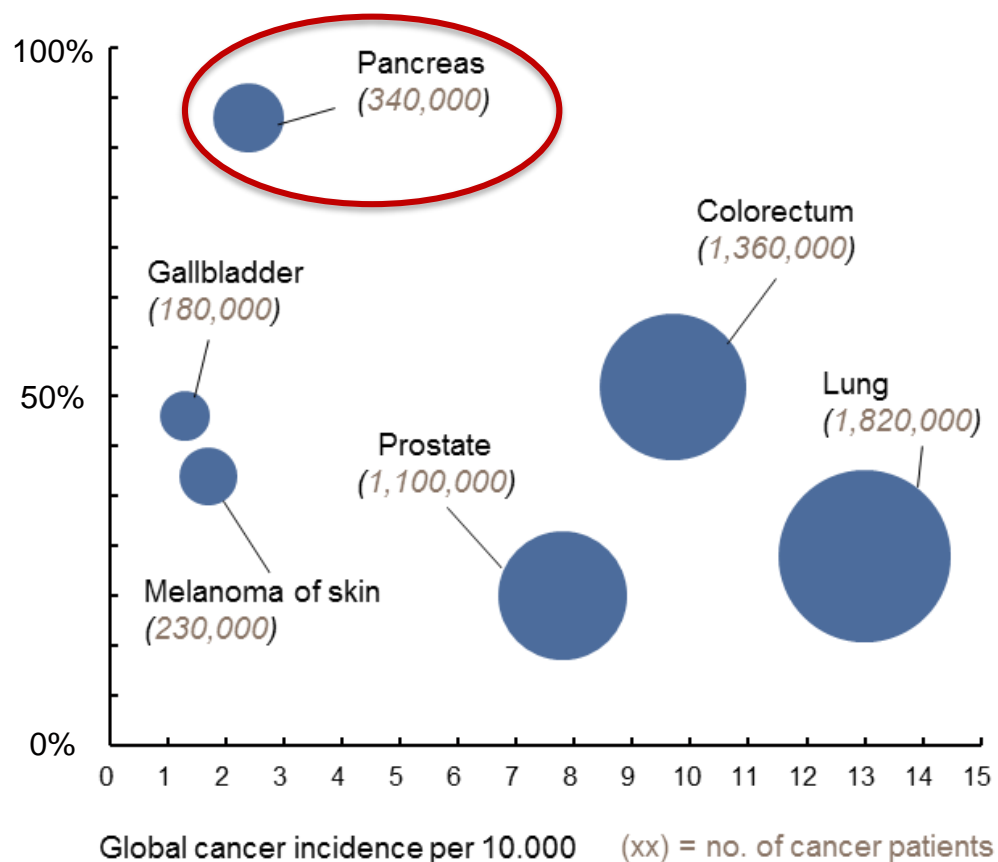


No improvement in survival over the past 40 years



The RAS gene is mutated in >85% of pancreatic cancer patients, making it an interesting therapeutic target

Incidence of RAS mutations

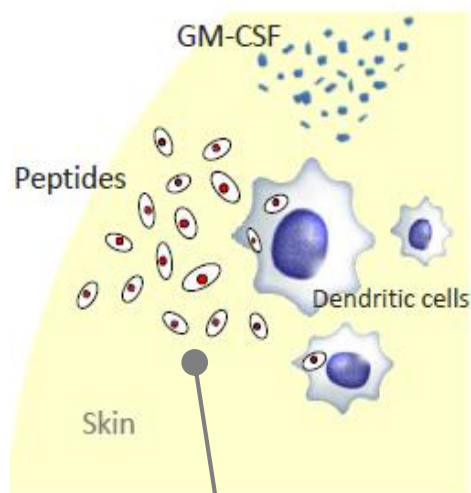


- One of the **most common mutations** in cancer
- RAS is a **well-defined neoantigen**
- Results in **cell division permanently switched on**
- **No existing therapies** targeting RAS
- Occurs in **>85% of pancreatic cancer patients**

The TG neoantigen vaccine primes the immune system to recognize and destroy RAS mutated cancer cells

Activate immune system:

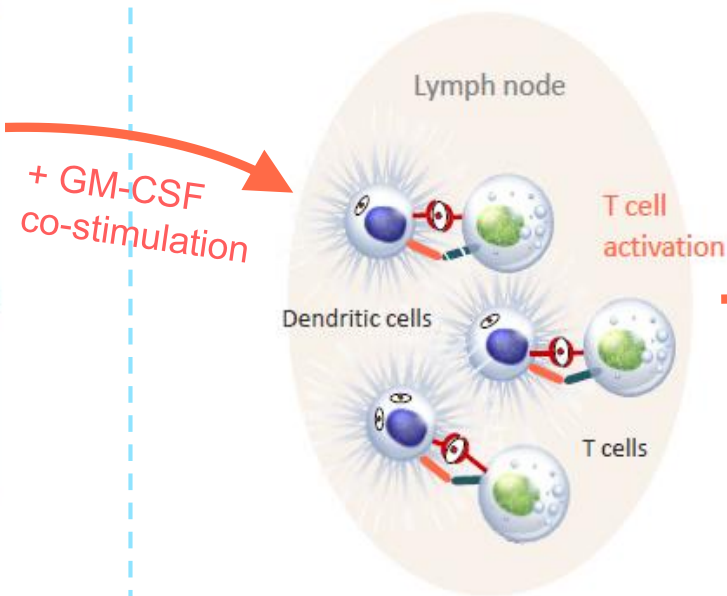
- TG vaccine injected intradermally
- APCs pick up the TG RAS antigens



Cocktail of 7 peptides covering all relevant RAS mutations in pancreas

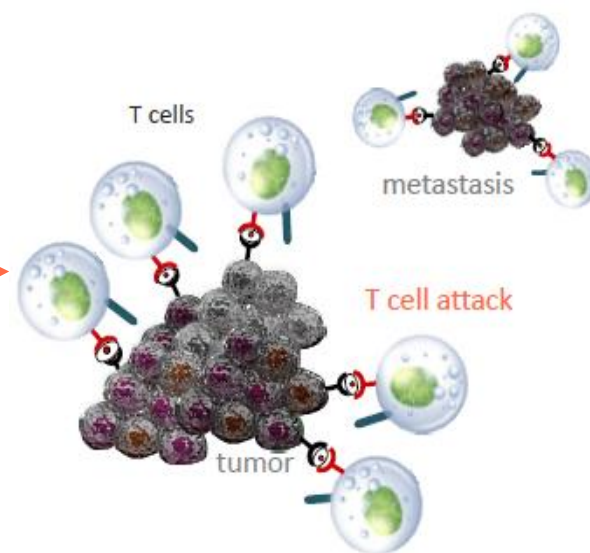
Train T-cells:

- APCs present RAS antigens in lymph node
- Production of RAS specific T-cells



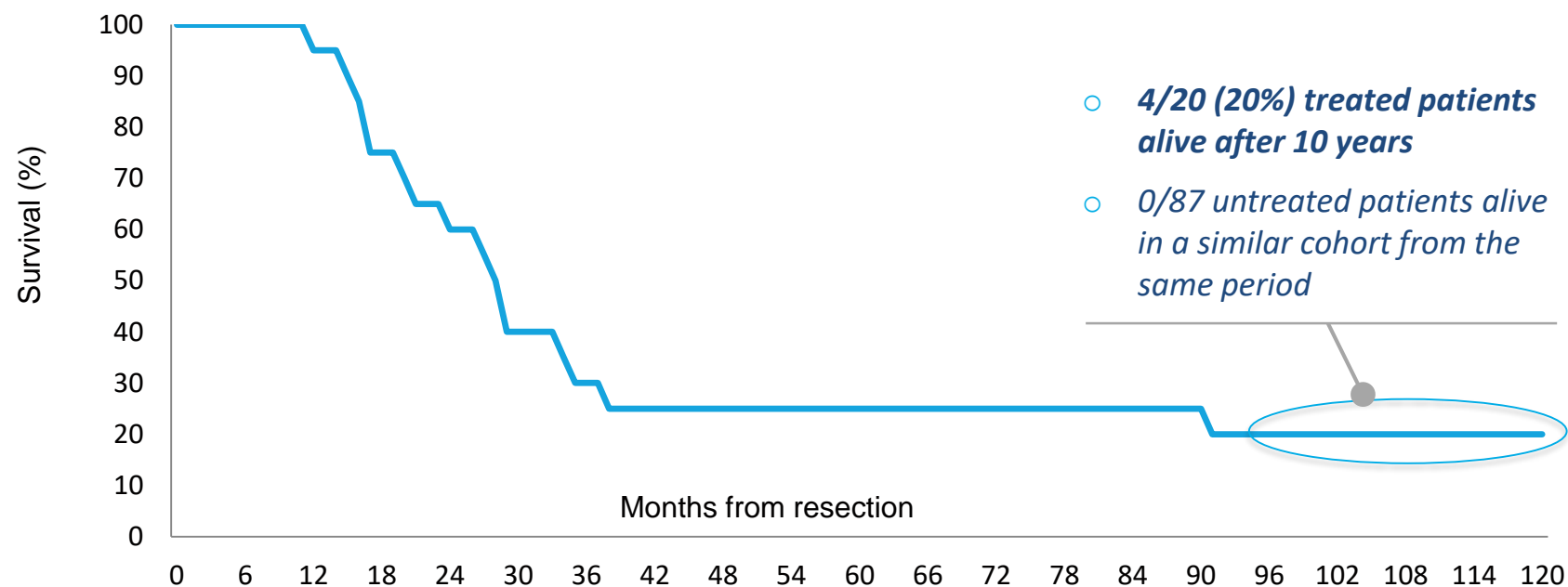
Attack the cancer:

- RAS specific T-cells identify cancer cells displaying mutated RAS
- CD8+ T-cells kill the cancer cells



The TG vaccine has shown 20% 10 year survival in earlier Phase I trials in resected pancreatic cancer

10 year survival from historical TG trials in resected pancreatic cancer (monotherapy)



¹ Wedén et al., 2011

² Oettle H et al., JAMA 2007, vol 297, no 3

³ Oettle H et al., JAMA 2013, vol 310, no 14

These data were corroborated in a recent Phase I/II trial in combination with modern standard of care

Results from TG01-01 trial in resected pancreatic cancer (combination with Gemcitabine)

2 year overall survival

- **13 of 19 patients (68%) alive 2 years after surgery**
- Historical controls 2 year survival range from 30-53%¹

Median survival

- **33.1 months from surgery**
- 27.6 months for SoC (Gemcitabine) in ESPAC-4 study²

Immune response

- **18/19 patients (95%) showed TG specific immune activation**

Safety

- **Good safety profile, treatment generally well-tolerated**
- Some manageable allergic reactions were seen

1: Relevant historical control trials, not including ESPAC-4, which did not report 2 year OS

2: 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)

Clinical development overview for TG01 – Targovax is seeking potential partnership

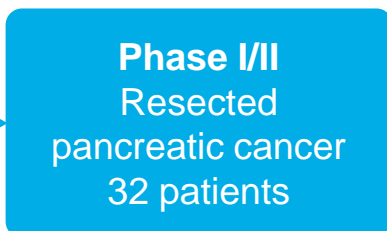
Historical trials

Completing trial

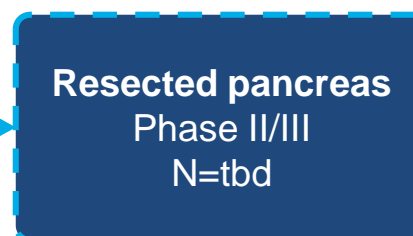
Planned / recruiting trials



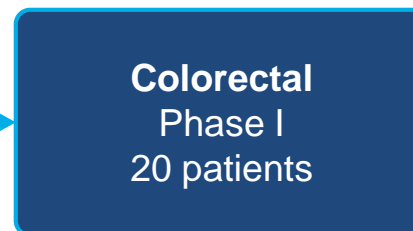
- 10 year survival data
- Correlation between immune response and survival
- Large safety database



- Encouraging 2 year survival and median survival



- 2 arm, controlled trial
- Aimed to reach registration
- Currently seeking partner



- TG02, targets 8 mutations
- Combination with Keytruda
- Currently recruiting patients

Agenda

- Introduction to immunotherapy
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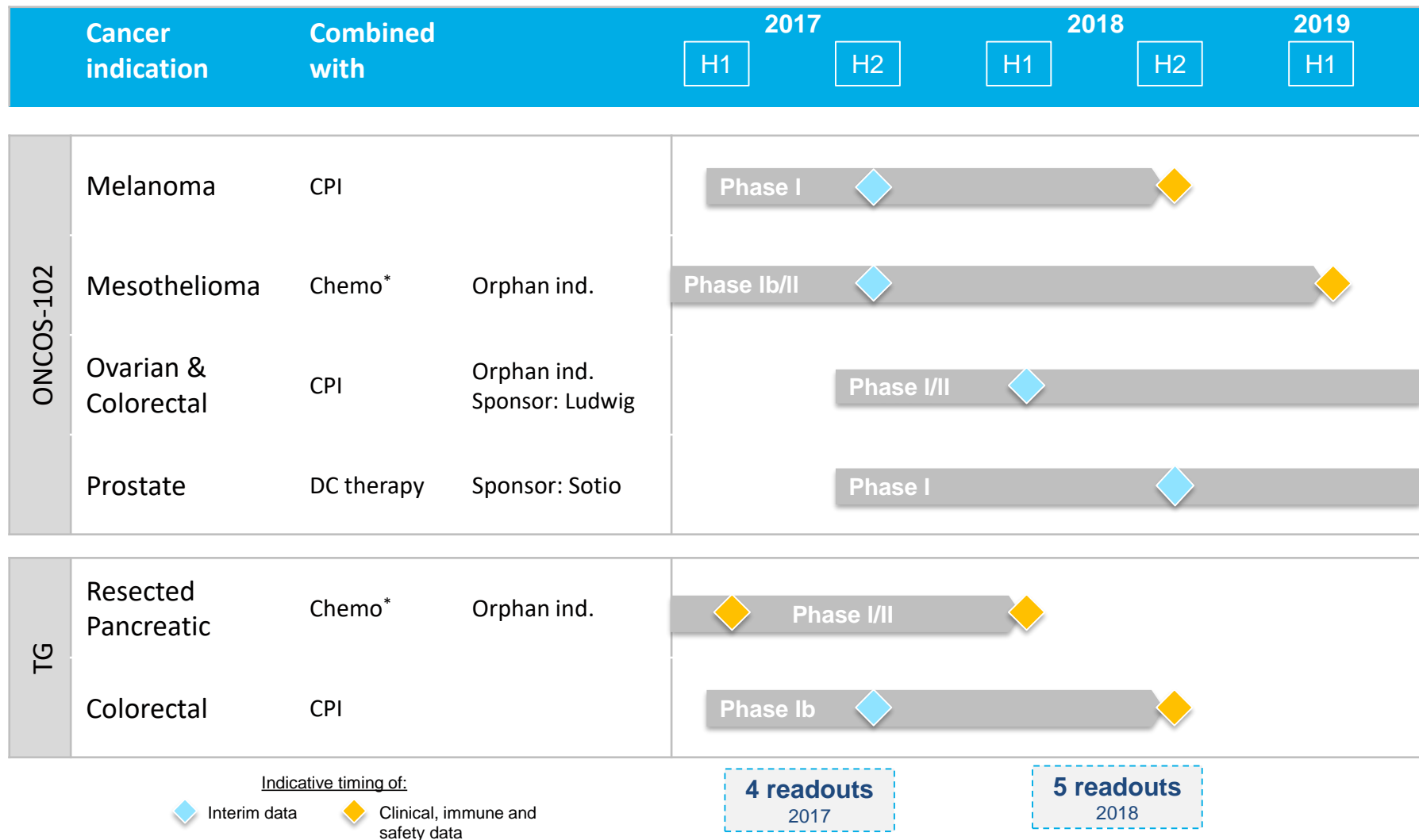
- ONCOS-102 oncolytic virus platform
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- TG neo-antigen cancer vaccine platform
-

- **Targovax clinical program overview**
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- Financial highlights

Two platforms and six clinical trials ensures a program with frequent data readouts



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

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- Targovax clinical program overview

- **Financial highlights**

Targovax has a sound financial position, with cash to complete the planned clinical program into 2019

Raised NOK 200 million in private placement June 8 2017
10,000,000 new shares @ NOK 20 per share

Operations			
Cash end of Q2	NOK 116m	USD 14m	June 30 st 2017
Net cash flow	NOK -32m	USD -4m	Total Q2
Annual run rate	NOK 102m	USD 12m	Last four quarters
Runway	NOK ~300m	USD >35m	Into 2019

The share	OSE: TRVX		
Market Cap	NOK ~1bn	USD ~125m	At share price NOK ~20
Daily turnover	NOK 10m	USD 1m	Rolling 6 month avg.
Analysts	DNB, ABG Sundal Collier, Arctic, Redeye, Norske Aksjeanalyser		

The shareholder base is strong, with a mix of specialist, generalist and retail investors

Shareholder		Estimated ownership	
		Shares m	Relative
HealthCap	Sweden	12,4	23,6 %
Nordea	Norway	4,7	8,9 %
RadForsk	Norway	4,4	8,4 %
KLP	Norway	1,8	3,4 %
Statoil	Norway	1,2	2,2 %
Rasmussengruppen	Norway	1,0	1,9 %
Danske Bank (nom.)	Norway	0,8	1,6 %
Euroclear Bank (nom.)	Belgium	0,8	1,4 %
Timmuno	Norway	0,7	1,4 %
Prieta AS	Norway	0,7	1,4 %
Thorendahl Invest AS	Norway	0,7	1,3 %
Sundt AS	Norway	0,7	1,2 %
The Bank of NY Mellon (nom.)	Belgium	0,3	0,6 %
ABN Amro Global (nom.)	Netherlands	0,3	0,5 %
Norda ASA	Norway	0,3	0,5 %
NHO - P665AK	Norway	0,3	0,5 %
Yngve S. Lillesund	Norway	0,2	0,4 %
The Bank of NY Mellon (nom.)	Belgium	0,2	0,4 %
Tobech Invest AS	Norway	0,2	0,4 %
Istvan Molnar	Norway	0,2	0,4 %
Top 20		31,8	60,4 %
<i>Other shareholders (3860)</i>		<i>20,8</i>	<i>39,6 %</i>
Total		52,6	100,0 %

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

- **56.4m shares fully diluted**
 - Average strike price on options ~NOK 21
 - Total dilutive effect of options is 6.5%
- **52.5m ordinary shares**
 - Management ownership: 1.7%
 - 3,880 shareholders

Planned strong news flow with multiple near term value inflection points

