



Arming the patient's immune system to fight cancer

2Q & 1H 2017 presentation

August 24th 2017



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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 RAS-peptide 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



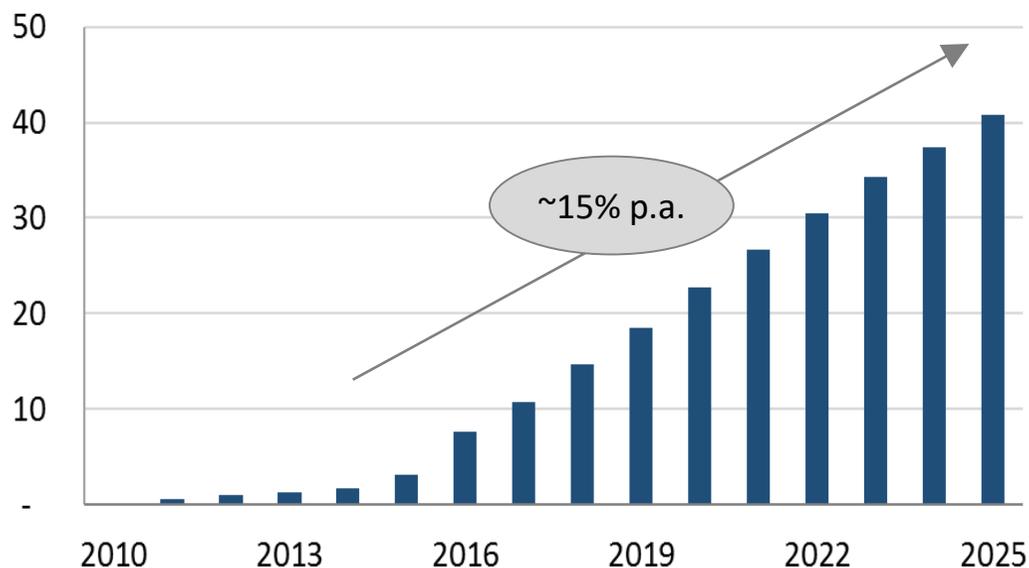
1 year after

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



Science, December 2013

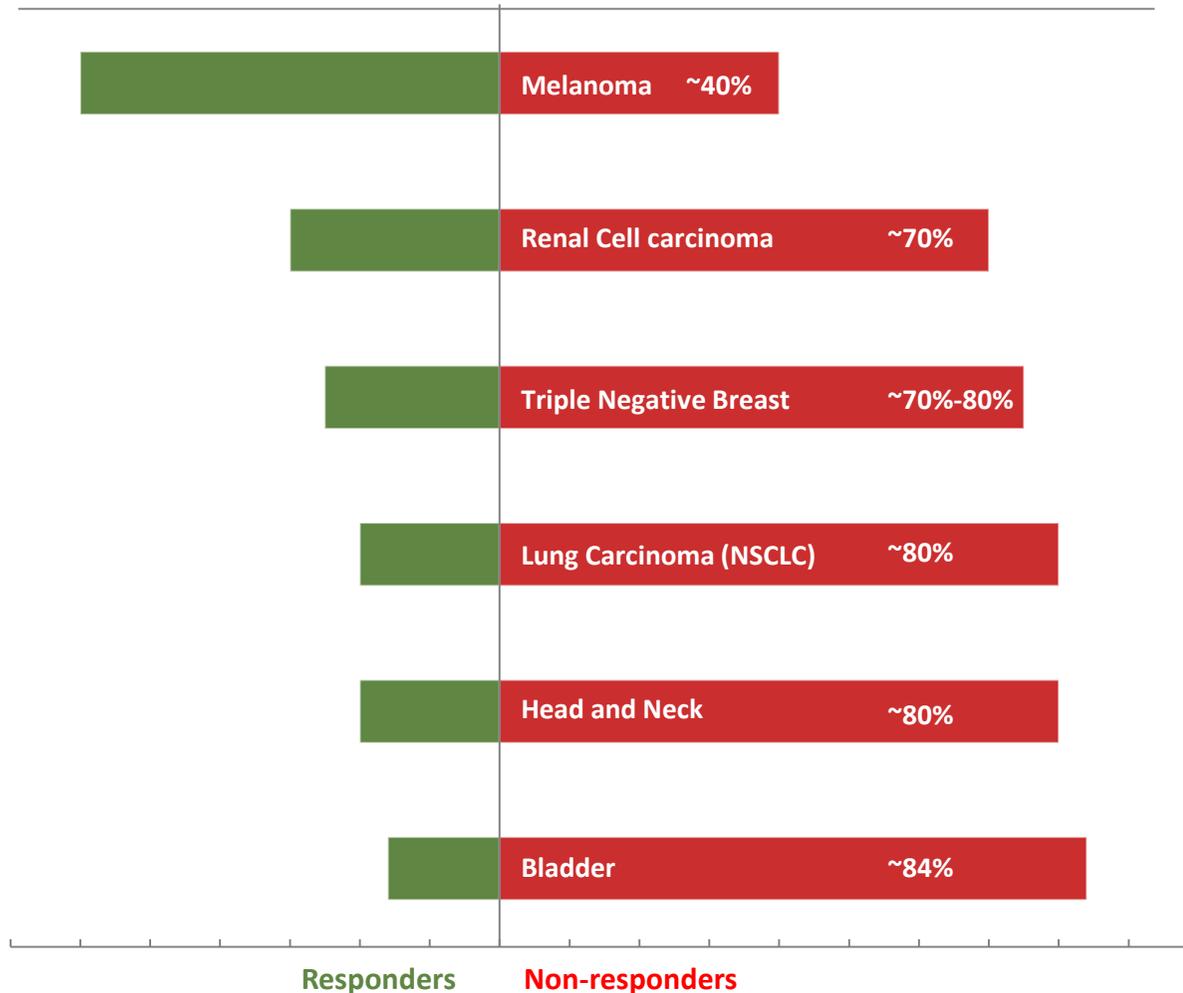
Estimated market size by major analysts (\$Bn)*



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

Most patients do not respond to currently available immunotherapies

Response rate to checkpoint inhibitors (CPIs)

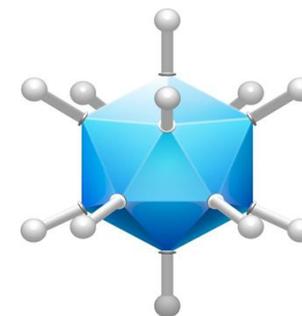


*Complimentary
immune priming
medicines may make
tumors **respond
better to checkpoint
inhibitors***

Targovax is developing two drugs to boost the effect of immunotherapy

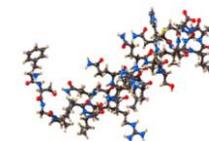
ONCOS-102 Oncolytic virus

- 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



Agenda

- Introduction to immunotherapy

- **ONCOS-102 oncolytic virus platform**

- TG RAS-peptide vaccine platform

- Targovax clinical program overview

- Financial highlights

ONCOS-102 makes tumors visible to the immune system

Activate immune system:

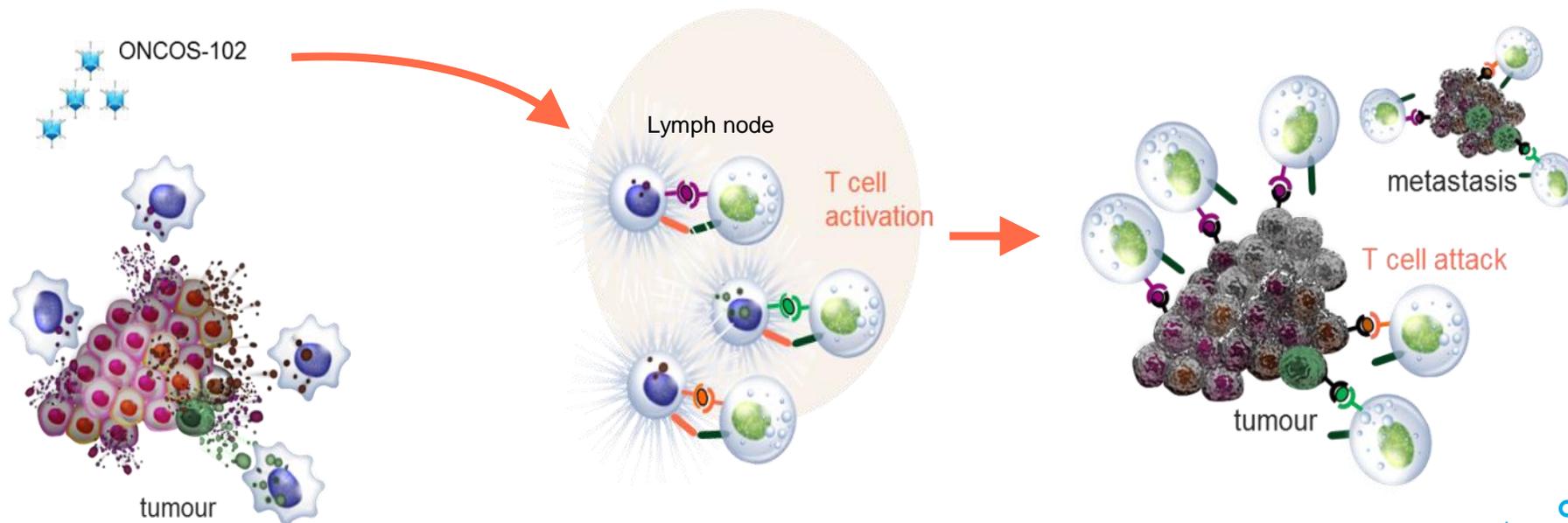
- Virus injected directly into the tumor / peritoneum
- Infected cells lyse and release cancer-specific antigens

Train T-cells:

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

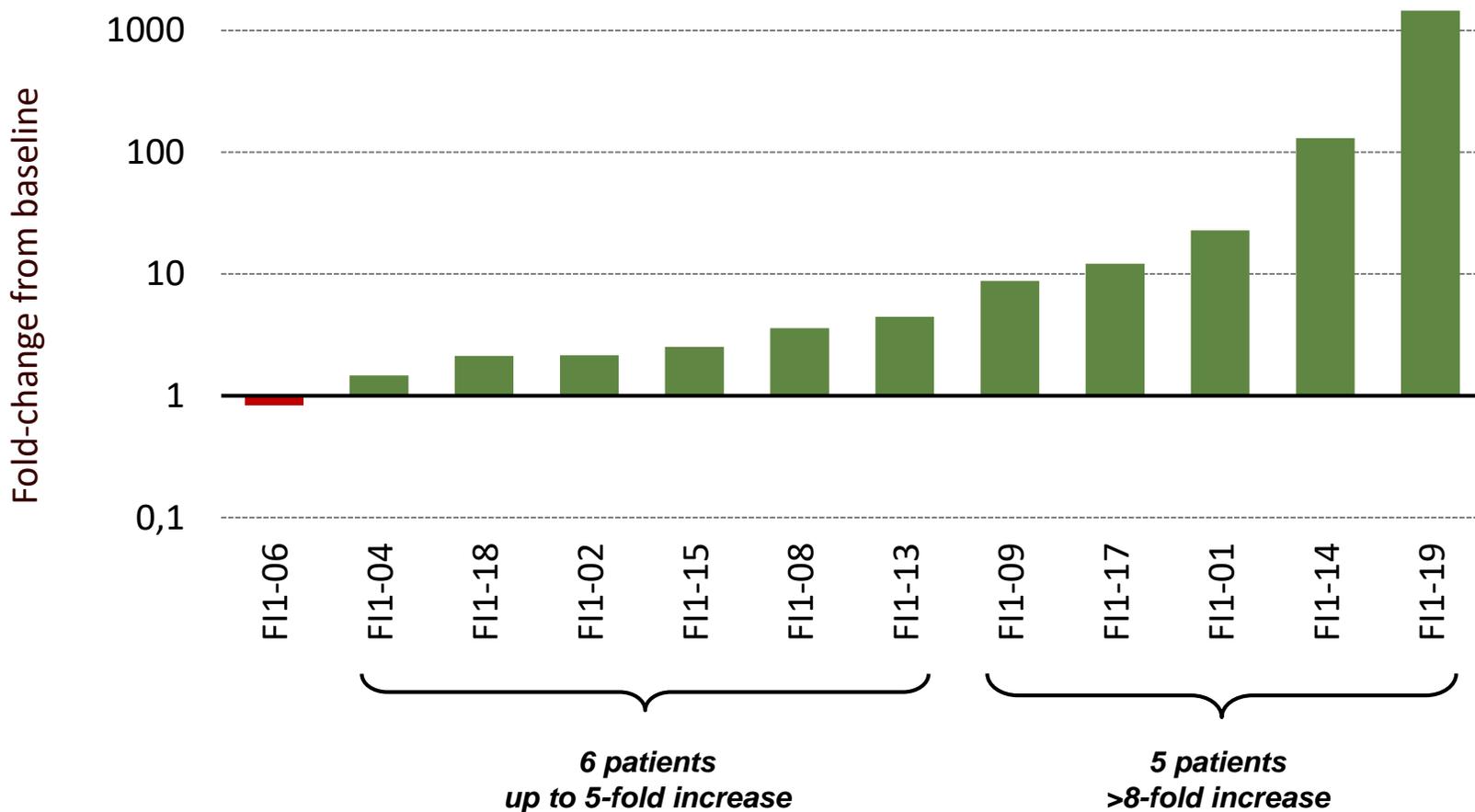
Attack the cancer:

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

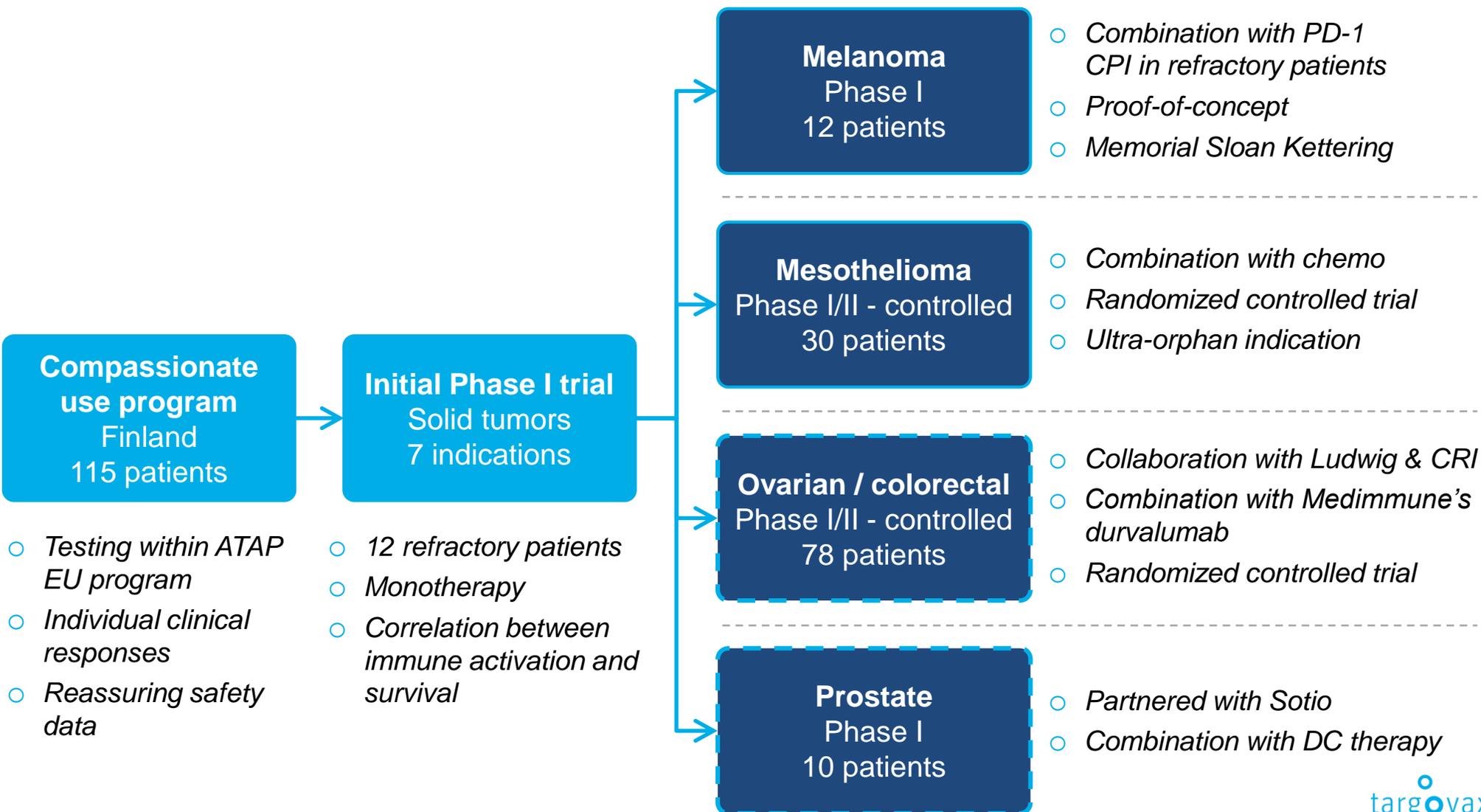


Phase I trial data in solid tumors: ONCOS-102 can make tumors hot

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 RAS-peptide vaccine platform**
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- Targovax clinical program overview
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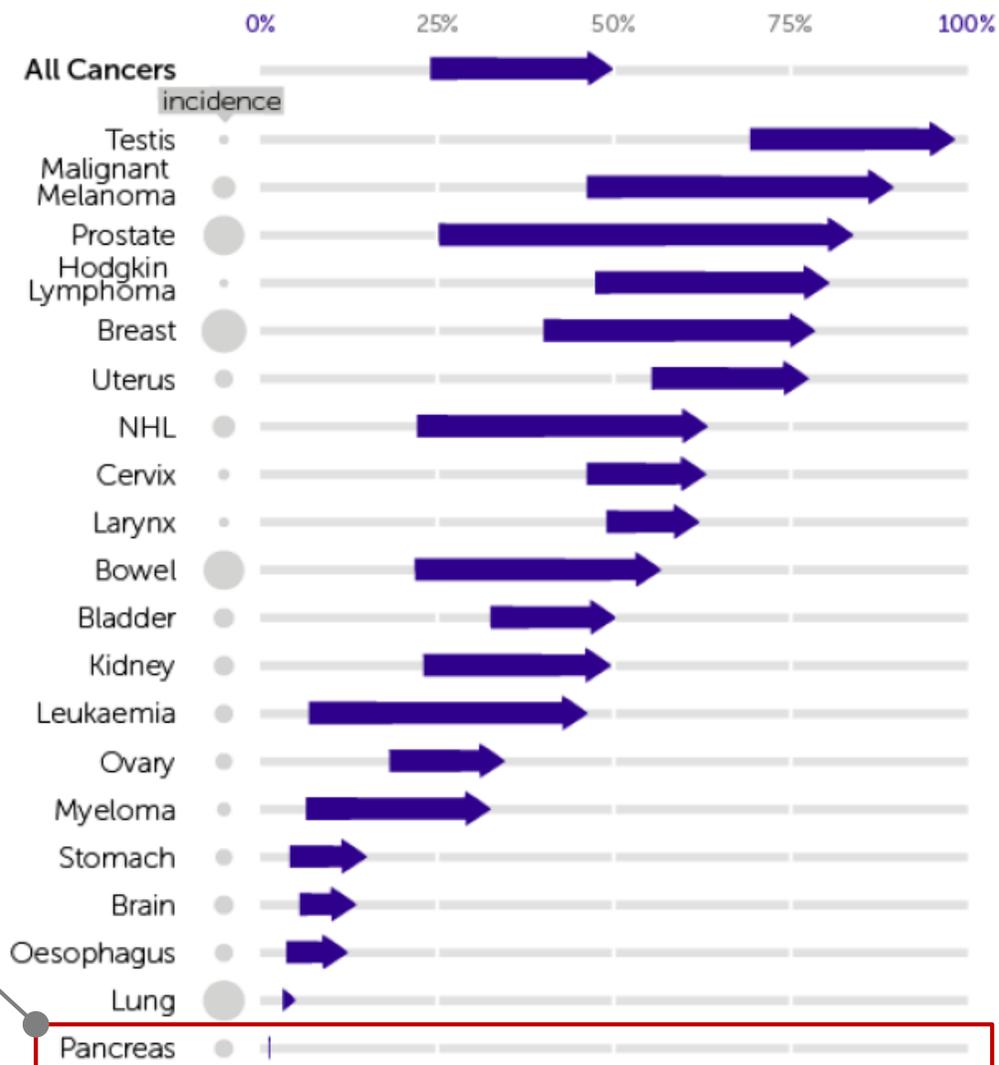
- Financial highlights

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

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

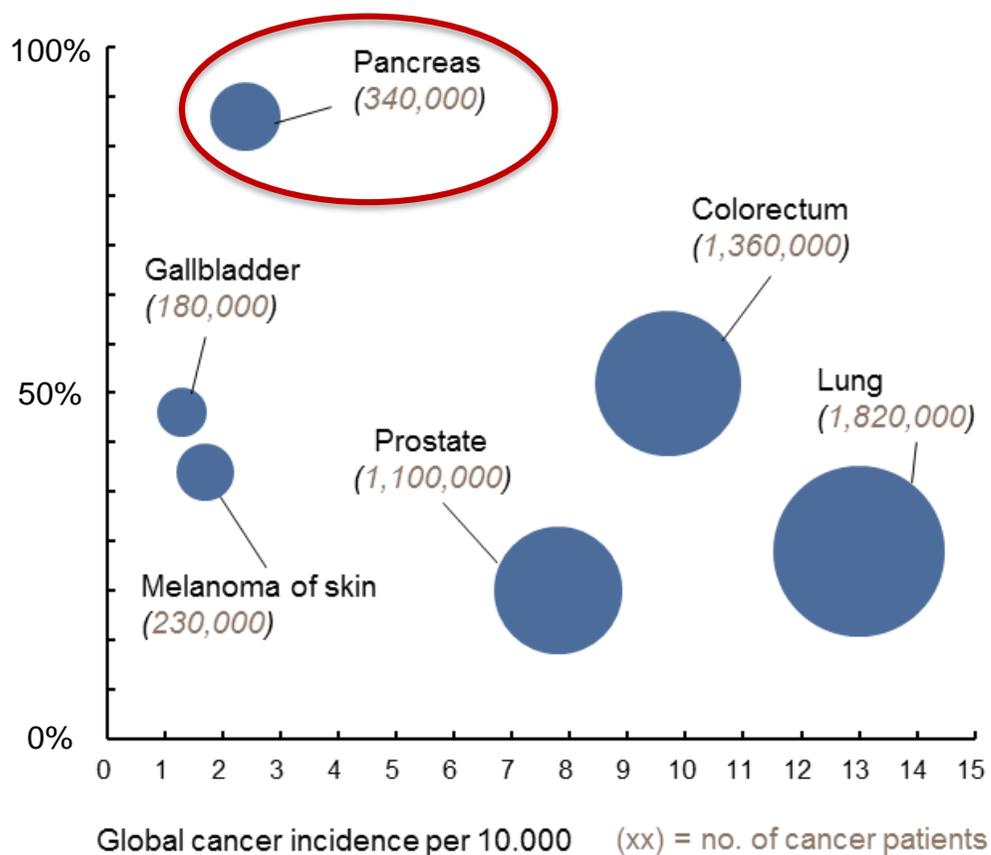


No improvement in survival over the past 40 years



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

Incidence of RAS mutations

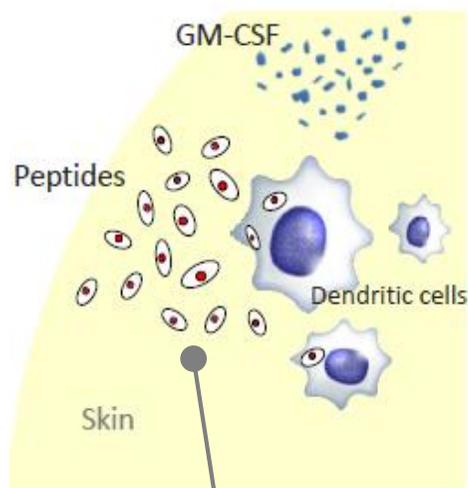


- One of the **most common mutations** in cancer
- RAS is a **well-defined neoantigen**
- Results in **cell division permanently switched on**
- **No existing therapies** targeting RAS
- Occurs in **>85% of pancreatic cancer patients**

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

Activate immune system:

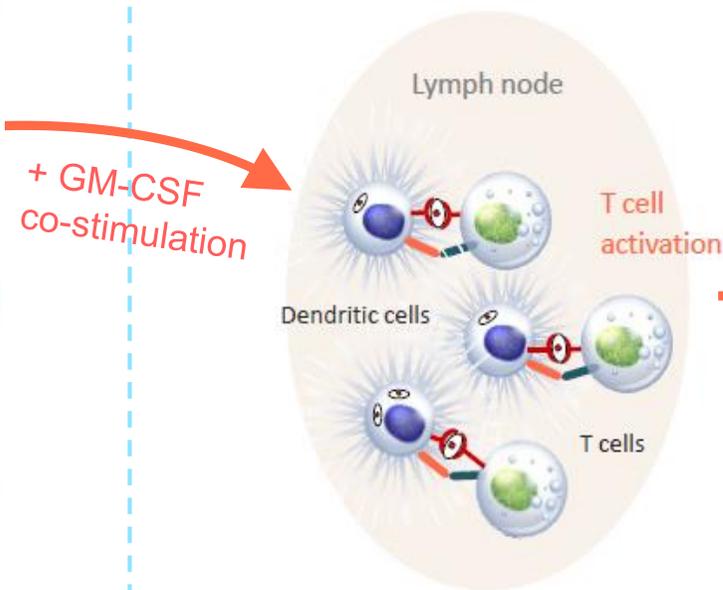
- TG vaccine injected intradermally
- APCs pick up the TG RAS antigens



Cocktail of 7 peptides covering all relevant RAS mutations in pancreas

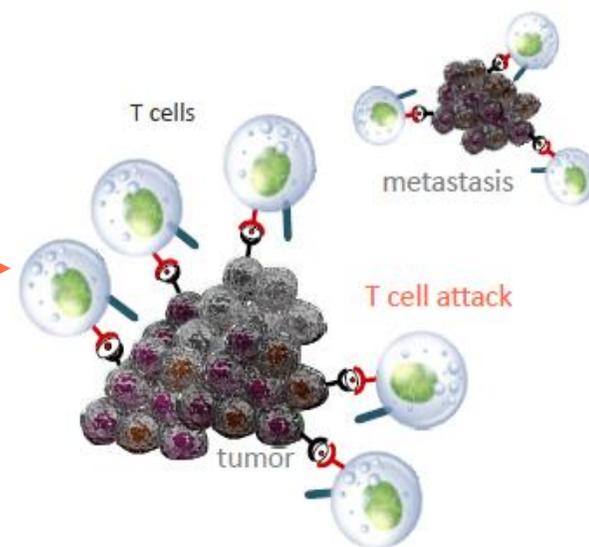
Train T-cells:

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



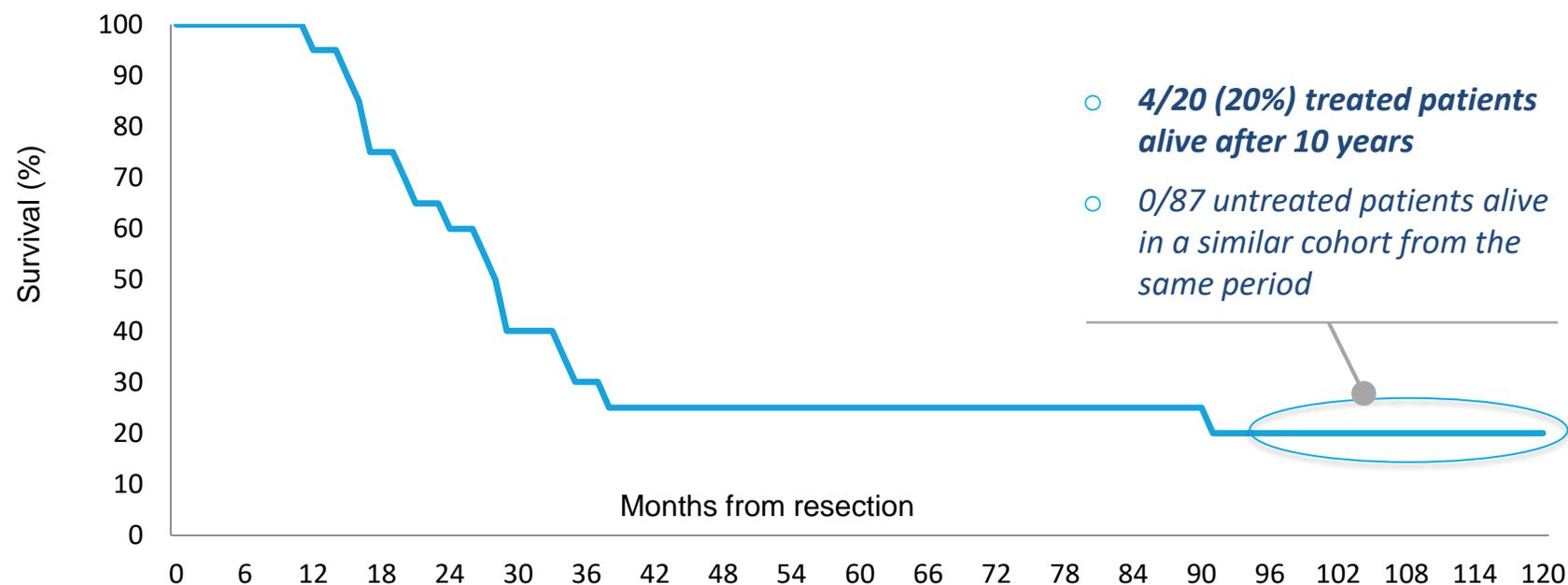
Attack the cancer:

- 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



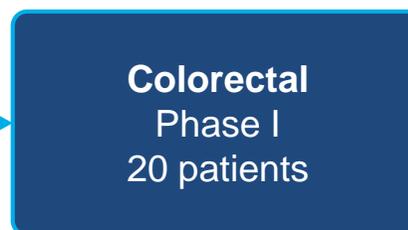
- 10 year survival data
- Correlation between immune response and survival
- Large safety database



- 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

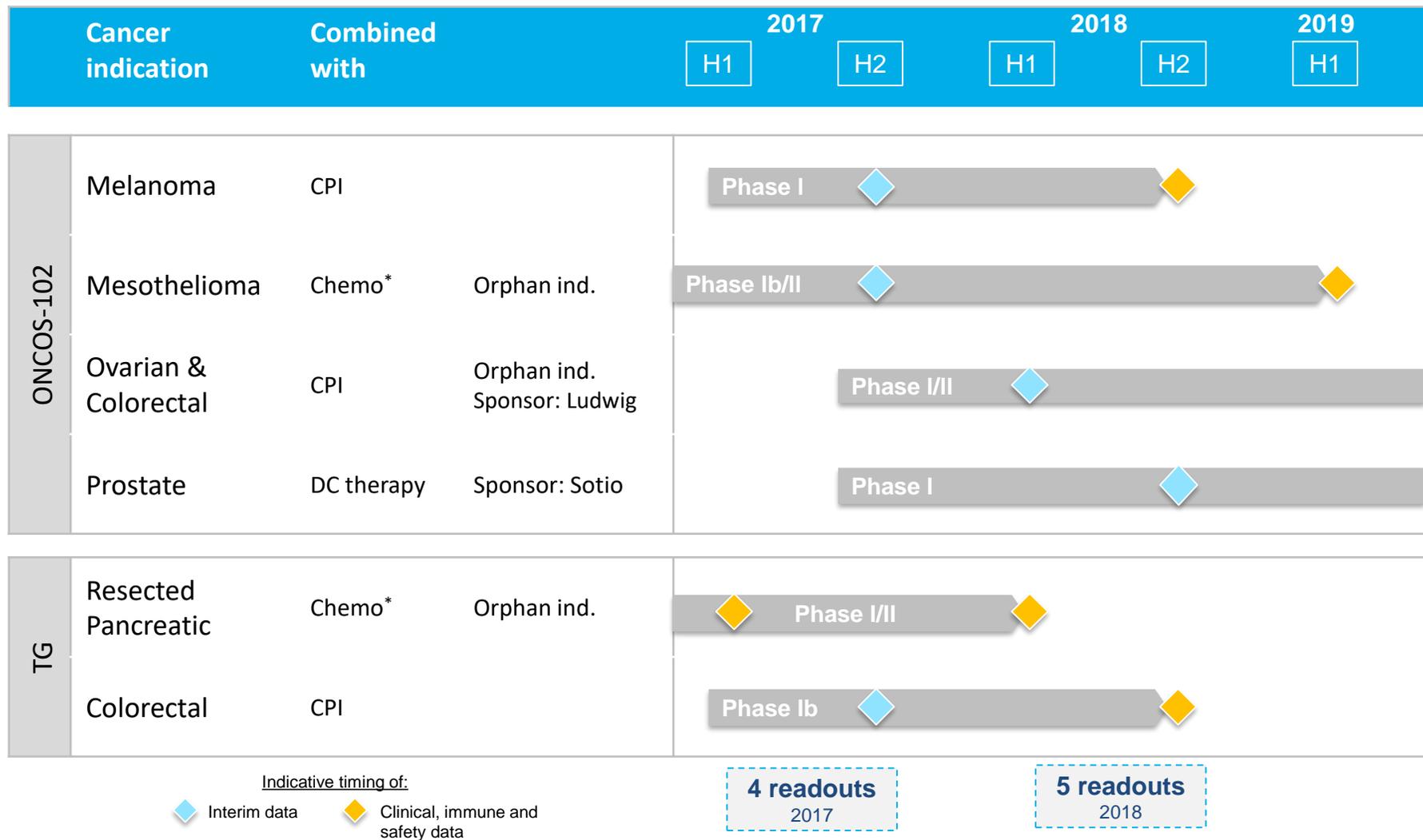
- ONCOS-102 oncolytic virus platform

- TG RAS-peptide vaccine platform

- **Targovax clinical program overview**

- 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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- **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

