



ChinaBio Conference

Suzhou – April 25 2018



Immunotherapy has the potential to cure cancer

Patient example – Yervoy® checkpoint inhibitor trial





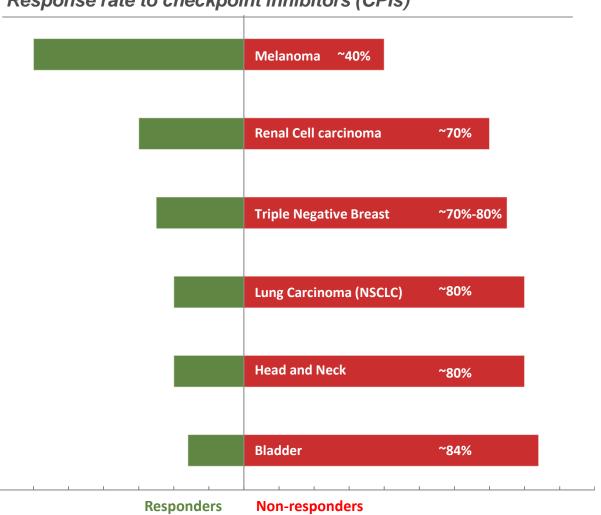
Prior to Yervoy®

1 year after



Most patients do not respond to currently available immunotherapies

Response rate to checkpoint inhibitors (CPIs)



Boosting T-cells in tumors may make checkpoint inhibitors effective in more patients



Targovax has two immuno-oncology programs in clinical development

ONCOS Oncolytic virus

- Genetically armed adenovirus
- Makes cancer antigens visible to immune system
- **Induces T-cells** specific to patients' tumor



TG RAS neoantigen vaccine

- Shared neoantigen, off-the-shelf peptide vaccine
- Targets oncogenic, mutated **RAS neoepitopes**
- **Induces T-cells** specific to **RAS mutations**





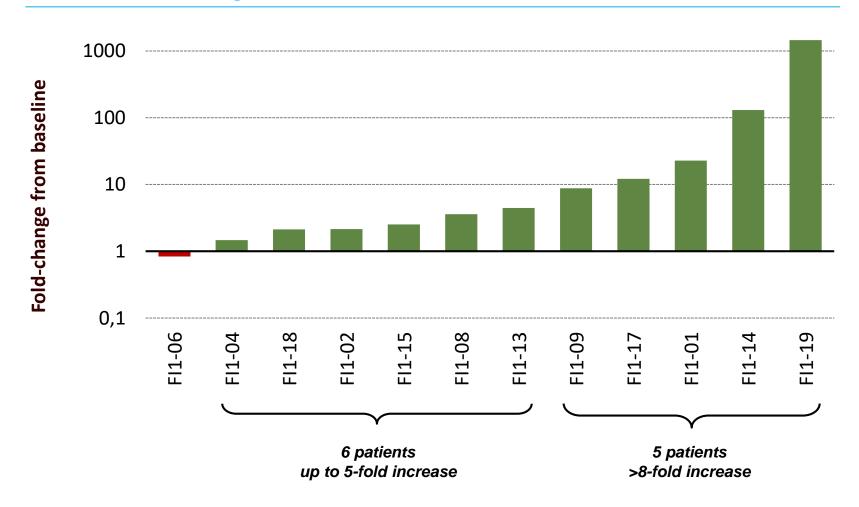
Agenda

- ONCOS oncolytic virus platform
- TG mutRAS neoantigen vaccine platform
- Targovax clinical program overview



ONCOS-102 can increase T-cell count in tumors

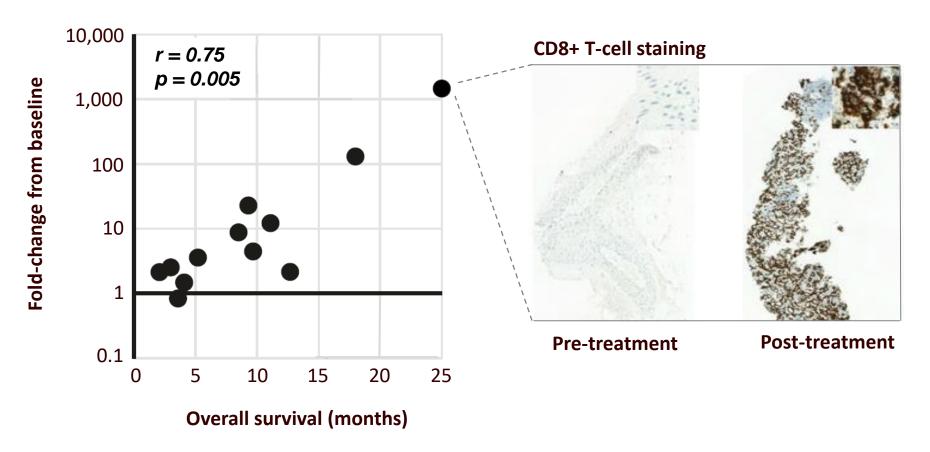
Phase I trial data: change in CD8+ T-cell count after treatment with ONCOS-102





This T-cell increase correlates with survival

Phase I trial data: Fold-change CD8+ T-cell count vs. survival





ONCOS clinical program overview

Completed trials
Ongoing trials
Starting trials

Compassionate
use program
Finland
115 patients

- Individual clinical responses
- Reassuring safety data

Phase I trial
7 Solid tumors
12 patients

 Correlation between immune activation and survival Ovarian / colorectal
Phase I/II
up to 78 patients

- Collaboration with Ludwig, CRI and MedImmune (AstraZeneca)
- Intraperitoneal administration

Mesothelioma
Phase lb/ll
30 patients

- 1st line combination with chemo
- Randomized controlled trial

Prostate
Phase I
10 patients

- Partnered with Sotio
- Combination with DC therapy

Melanoma
Phase I
12 patients

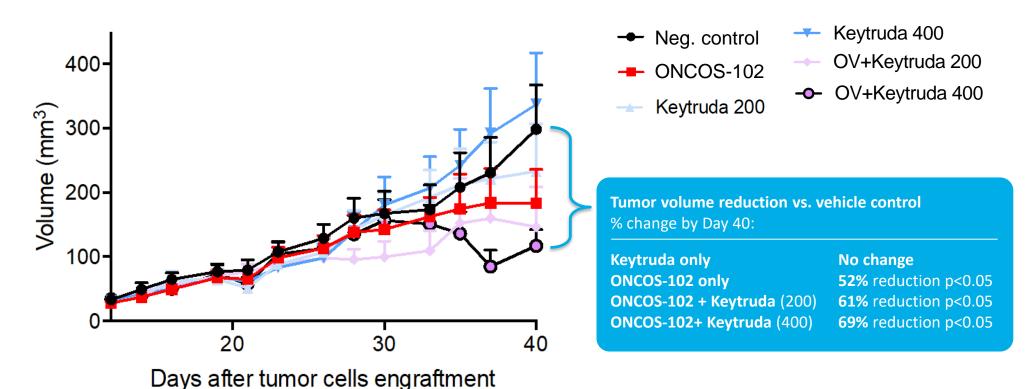
- Combination with PD-1
 CPI in refractory patients
- Memorial Sloan Kettering



www.targovax.com

Melanoma: ONCOS triggers 70% reduction in tumor volume with CPI combination in mouse model

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





Melanoma: ONCOS-102 induces early immune activation

Safety

Innate immune activation

Adaptive immune activation

Clinical efficacy

- ✓ First safety review completed with no safety concerns
- ✓ ONCOS-102 first time in melanoma treatment

- ✓ Systemic increase of several pro-inflammatory cytokines (4/4 patients)
- ✓ Increase in the relative level of cytotoxic CD8+ T cells (4/4 patients)
- ✓ Increase in PD-1 expression on CD8+ T cells (4/4 patients)

First ORR data expected in 2H 2018



Agenda

ONCOS oncolytic virus platform

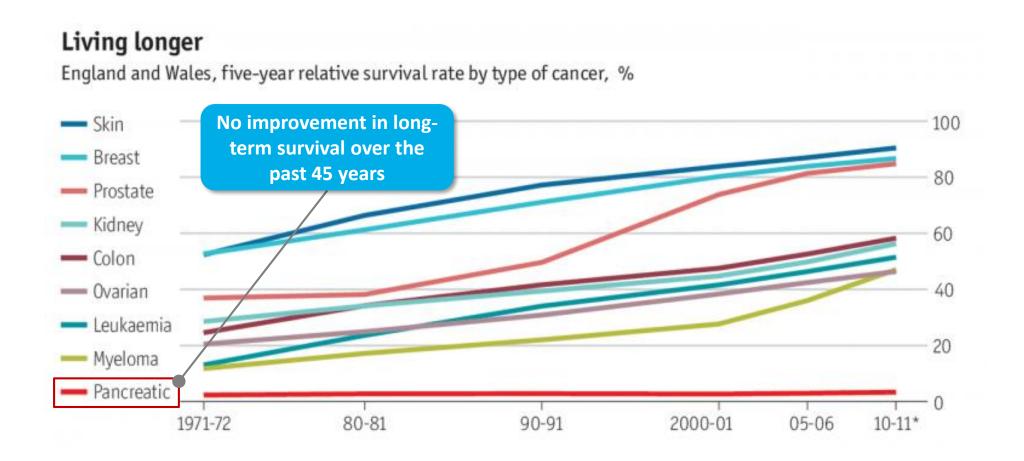
TG mutRAS neoantigen vaccine platform

Targovax clinical program overview



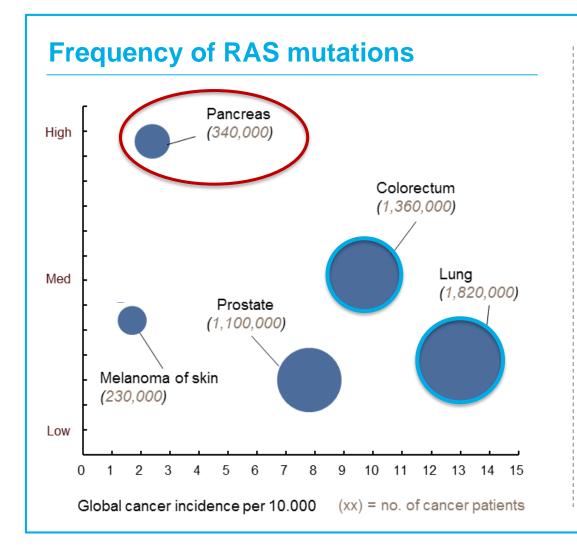
SOURCE: Cancer Research UK, graphic adapted from The Economist September 16 2017

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





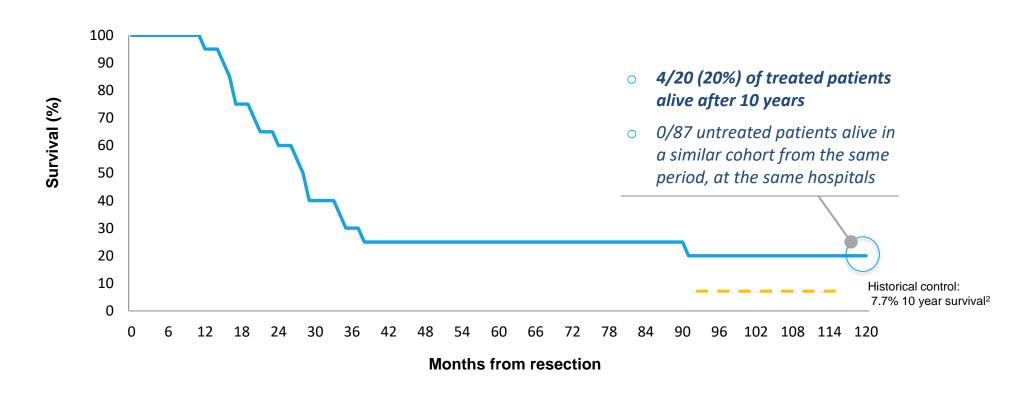
RAS is mutated in >90% of pancreatic cancer patients, making it an ideal target in this disease



- RAS mutations result in uncontrolled cell division
- There are no existing therapies targeting RAS
- Targovax has developed a unique vaccine against mutant RAS

In previous trials in resected pancreatic cancer, TG vaccination has shown 20% 10 year survival

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





These promising results are now being validated in a phase I/II trial finalizing in 1H 2018

1st cohort (19 patients)

- Median survival 33.1 months vs. 27.6 for historical control
- 13 of 19 patients (68%) alive 2 years after surgery,
 vs. 30-53% in historical controls

2nd **cohort** (13 patients)

13 of 13 patients (100%) alive 1 year after surgery

mutRAS immune response (1 yr)

90% of patients (29/32) had RAS-specific 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)



Correlation between

immune response

and survival

TG clinical program overview

Pancreas, resected
& non-resected
Phase I

Phase I

Phase I/I

32 patients

Colorectal - TG02

Phase I gingle arm

Combined

O Possible

Colorectal - TG02

Phase I gingle arm

Combined

O Possible

Colorectal - TG02

Phase I gingle arm

Combined

O Possible

Colorectal - TG02

Phase I gingle arm

Combined

O Possible

Colorectal - TG02

Phase I gingle arm

Combined

O Possible

median survival

90% immune

response

- Ph IIb-III adaptive design
- Aimed to reach registration
- Possible CPI combination arm

Colorectal - TG02
 Phase I - single arm
 TG02, targets more mutations
 Combination w/KEYTRUDA®

Combination w/KEYTRUDA®
Currently recruiting patients

16

Resected pancreas

12 patients

Resected pancreatic cancer is the lead indication, but all RAS mutated cancers are potential TG targets





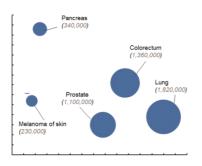












- TG01 lead indication
- Completing phase I/II
- Planning phase IIb/III
- 40.000 patients

- TG02 lead indication
- Phase I trial recruiting
- 50% RAS mutated
- O Up to 500.000 patients

- TG02 potential future indication
- 30% RAS mutated
- O Up to 500.000 patients

- TG02 + TG03 ultimate long-term potential
- 30% of all cancers
- 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

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Interim data

Clinical, immune and safety data

Overview of Targovax' full clinical program



Arming the patient's immune system to fight cancer

Broad clinical program



- Six shots on goal
- ✓ Several upcoming data points

ONCOS



- ✓ Demonstrated ability to increase T-cell count
- ✓ Potential to make CPIs effective in more indications

TG



- ✓ Unique approach for targeting RAS mutations
- ✓ Potential to benefit up to 1/3 of all cancer patients

