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Agenda & Speakers:

08:30-08:40
Welcome Remarks
Øystein Soug, CEO, Targovax

08:40-09:20
Resected Pancreatic Cancer: Overview and TG01 Full Data,
Prof. Daniel Palmer

09:20-09:40
Update on TG Strategy
Øystein Soug, CEO, Targovax

09:40-09:50
ONCOS Overview,
Dr. Erik Digman Wiklund, CBO, Targovax

09:50-10:10
ONCOS-102 Interim Data in Melanoma and Mesothelioma,
Dr. Magnus Jäderberg, CMO, Targovax

10:10-10:20
Financial and Closing Remarks,
Dr. Torbjørn Furuseth, CFO, Targovax

PLEASE JOIN US FOR A KOL EVENT

Professor Daniel Palmer will present the full data set from the TG01 phase I/II trial in resected pancreatic cancer, and Targovax will provide an update on the TG development strategy

DATE	|	Monday, October 15th, 2018
TIME	|	08:30 CET
LOCATION	|	Hotel Continental Stortingsgata 24/26, 0117 Oslo, Norway

KOL PARTICIPANT:

Prof. Daniel Palmer
Chair of Medical Oncology , University of Liverpool and Clatterbridge Cancer Centre

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.

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1 Welcome remarks

2. Resected pancreatic cancer: overview and TG01 full data - *Prof. Daniel Palmer*
3. Update on TG strategy
4. ONCOS overview
5. ONCOS-102 interim data in melanoma and mesothelioma
6. Financial and closing remarks

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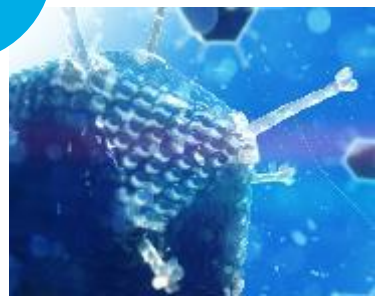
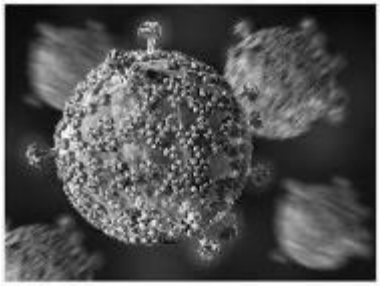
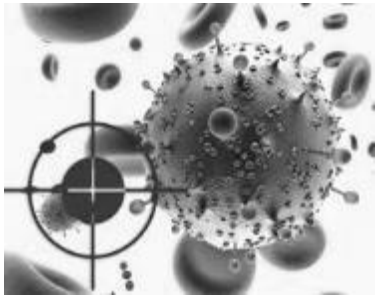
TARGOVAX AIMS TO ACTIVATE THE PATIENT'S OWN IMMUNE SYSTEM TO FIGHT CANCER

Targovax focus







Immune activators
Oncolytic viruses, vaccines

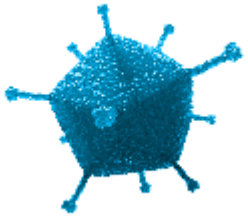
Immune modulators
Checkpoint inhibitors

Surgery - Radio - Chemo

Immune boosters
CAR-Ts, TCRs

Targeted therapy
PARPs, gene therapy, etc.

TARGOVAX HAS 2 ASSETS IN CLINICAL DEVELOPMENT



ONCOS
Oncolytic virus

Lead product candidate

- Genetically **armed adenovirus**
- **Alerts the immune system** to the presence of cancer antigens
- **Induces T-cells** specific to the patients' tumor
- **4 ongoing trials**

TG
Neoantigen vaccine

Pipeline product

- **Shared neoantigen**, therapeutic cancer vaccine
- Triggers the immune system to **recognize mutant RAS cancers**

Activates the immune system

Triggers patient-specific responses

No need for individualization

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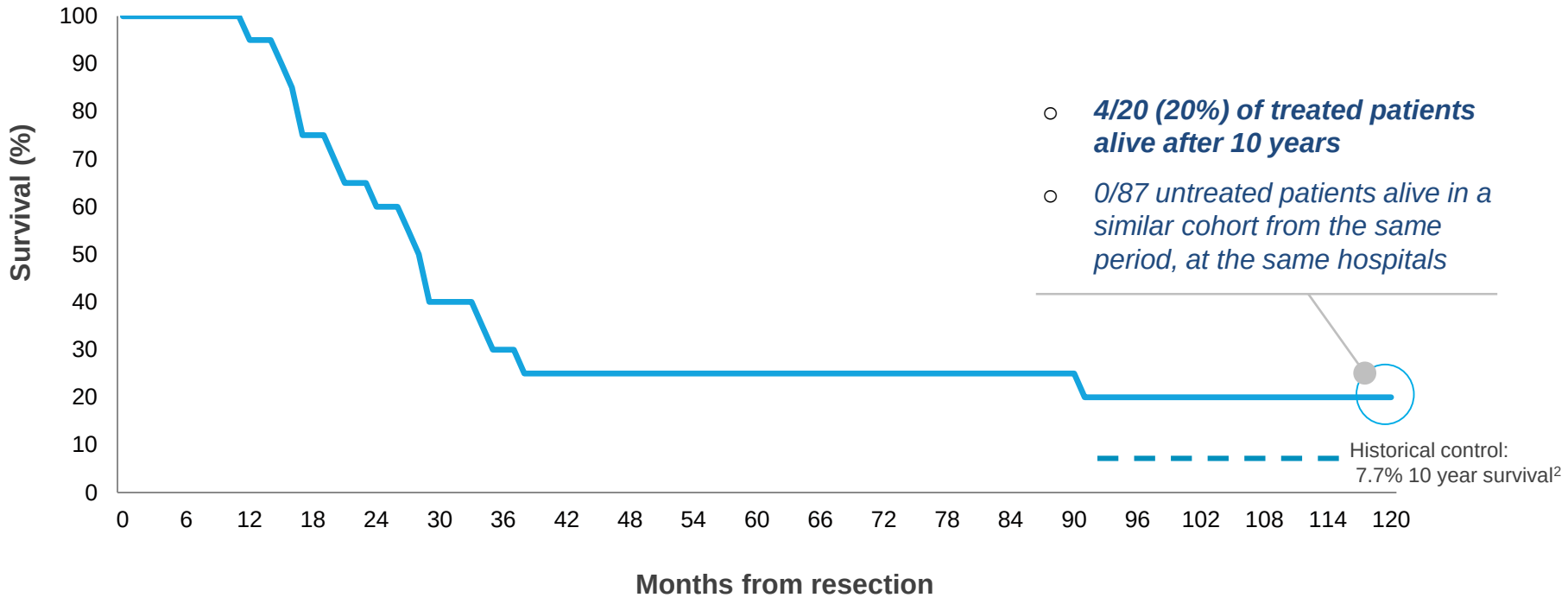
EARLY TG CLINICAL EFFICACY DATA

TG vaccination has shown 20% 10 year survival in monotherapy trials

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



[1] Wedén et al., 2011

[2] Oettle H et al., JAMA 2013, vol 310, no 14

2

Resected pancreatic cancer: overview and TG01 full data

Prof. Daniel Palmer

3. Update on TG strategy
4. ONCOS overview
5. ONCOS-102 interim data in melanoma and mesothelioma
6. Financial and closing remarks

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For Prof. Palmers presentation, please contact renate.birkeli@targoax.com

3

Update on TG strategy

4. ONCOS overview
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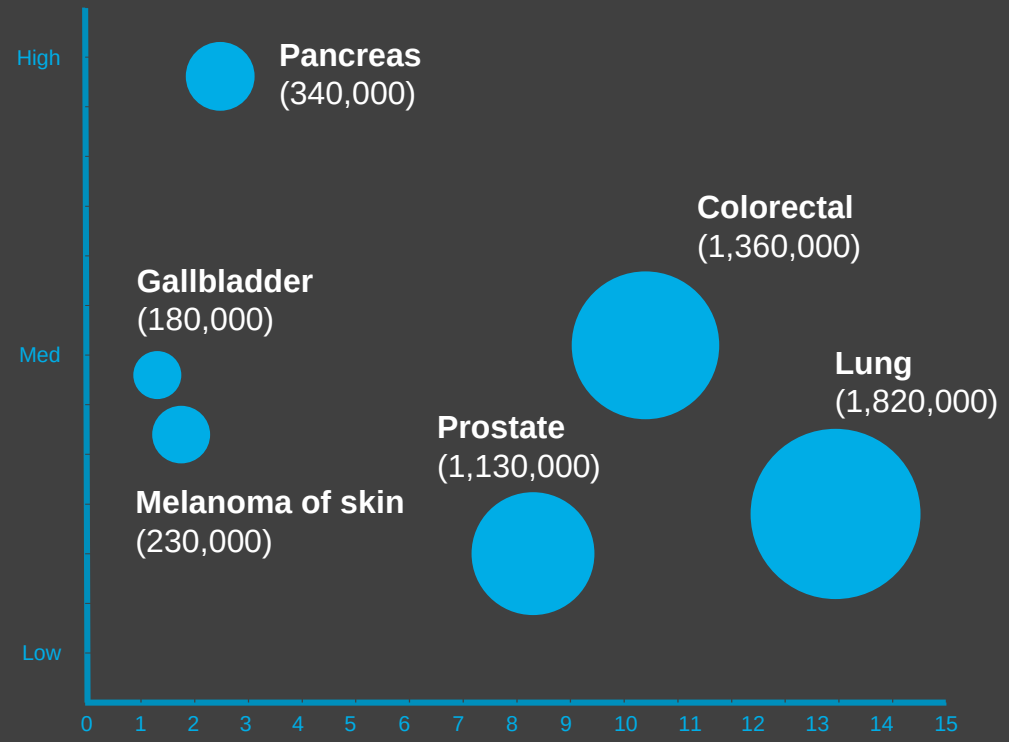
The RAS gene is mutated in
90% OF PANCREATIC AND 50% OF COLORECTAL CANCERS

Frequency of RAS mutations

Global cancer incidents per 10,000
(xx) = no. of cancer patients



- RAS mutations are oncogenic and result in **uncontrolled cell division**
- **There are no existing therapies** targeting RAS mutations
- Targovax' TG program is a **unique vaccine approach for mutant RAS cancer**

Fernandez-Medarde; RAS in Cancer and Developmental Diseases; Genes & Cancer. 2011;2(3)

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TG01 IN RESECTED PANCREATIC CANCER

SIGNAL OF EFFICACY SEEN IN PHASE I/II TRIAL

Median overall survival (N=32)	**33.4 vs. 27.6 months** reported in the ESPAC4 trial for gemcitabine alone (counting from time of surgery) ○ First patient cohort 33.1 months mOS (n=19) ○ **Second patient cohort mOS not yet reached** (n=13)
Median disease free survival (mDFS)	**16.1 vs. 13.1 months** reported in the ESPAC4 trial for gemcitabine alone (counting from time of surgery) ○ First patient cohort 13.9 months mDFS (n=19) ○ **Second patient cohort 19.5 months mDFS** (n=13)
mutRAS immune activation	**30 out of 32 patients (94%)** had **RAS-specific immune activation**
Dosing and safety	**Dosing regimen defined** and TG01 is **well-tolerated** in combination with chemotherapy

KEY LEARNINGS FROM TG01-01

Relevant insights for future TG trials

Safety	TG is generally **well-tolerated**
Dosing schedule	**Avoiding concomitant chemo** and vaccination seems beneficial. Dosing schedule for subsequent trial established
TG vaccination works	Over 90% of patients have **mutRAS immune activation,** and mutRAS specific TILs isolated in historical trial
Survival benefit	Apparent **6 month improvement** in mOS vs. historical gemcitabine alone in the ESPAC4 trial.
Disease free survival	Vaccinated patients show encouraging **mDFS** relative to comparative trials, particularly in the 2nd cohort
Future endpoint	**DFS and PFS** may be suitable endpoints for future trials

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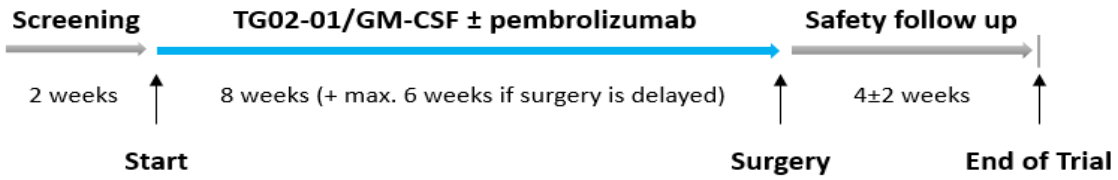
TG02-01
VACCINE TRIAL TARGETING mRAS IN COLORECTAL CANCER

Study Objectives

- **Safety**
- Evaluate ability to **generate mutRAS specific T-cells**
- Investigate functionallity of mutRAS specific T-cells in tumor tissue, also in combination with pembrolizumab

Study Design



Data

- **Passed the initial safety review** of 4 patients in Dec.17
- PD-1 expression observed on circulating and tumor infiltrating **T-cells**
- 1H19 - **Immune activation** and **mecahnistic data** expected

Demographics

- Study ongoing, AUS and NZ, 5 sites
- Part I: Treatment with TG02+GM-CSF, max 10 pts.
- Part II: Treatment with TG02+GM-CSF and pembrolizumab, approx. 10 pts
- 4 pts completed treatment Part I, treatment ongoing for 5th pts

OPPORTUNITIES TO DEVELOP THE TG PROGRAM

Rationale for further development of TG

"With the emergence of immune checkpoint inhibitors, therapeutic vaccine strategies are primed for a rebirth"

Clinical relevance

- Meaningful **clinical benefit (DFS and OS)** data in resected pancreatic cancer
- **Immune activation** with generation of mutRAS specific T-cells
- **Good safety profile**

Well-defined target

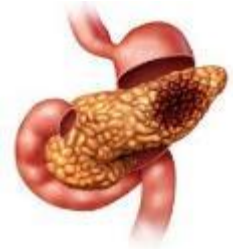
- Cancer neoantigens are **immunogenic and** can drive **anti-tumor immunity**
- RAS mutations are known **trunk neoantigens** present in large patient populations

Growing interest

- **Combinations with CPI** might fully release the therapeutic potential of neoantigen vaccines
- Several academic groups have contacted Targovax to run trials with TG

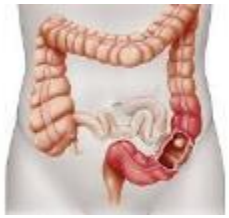
Several patient populations where
TG COULD MEET A STRONG MEDICAL NEED

Potential patient populations



Pancreatic cancer

- Resected patients with disease recurrence after adjuvant chemotherapy
- Unresectable locally advanced pancreatic cancer (Stage III) that has stabilized after first-line chemotherapy
- >90% RAS mutated



Colorectal cancer (CRC)

- Locally advanced unresectable or metastatic (Stage III/IV) that has stabilized after first-line chemotherapy
- Combination treatment in stage III/IV MSI-H patients eligible for Keytruda 1st line
- >40% RAS mutated

Non-small cell lung cancer (NSCLC)

- PD-L1 high patients eligible for 1st line Keytruda and chemotherapy combination
- CPI refractory / non-responding patients
- >25% RAS mutated

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TG neoantigen vaccine

CLINICAL DEVELOPMENT STRATEGY

1

Resected pan-creatic cancer

TG01 indication

- Ph I/II completed
- Next steps being reassessed
- ~40 000 incidents

2

Colorectal cancer

TG02 lead indication

- Ph I trial ongoing
- 50% mutRAS
- ~0.5m incidents

3

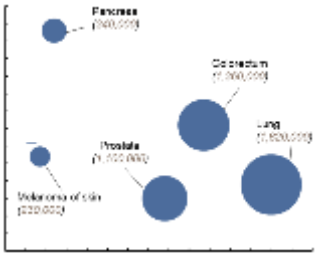
Lung cancer (NSCLC)

TG02 potential future indication

- 30% mutRAS
- ~0.5m incidents

4

All mutRAS cancers



TG02 + TG03 long-term potential

- 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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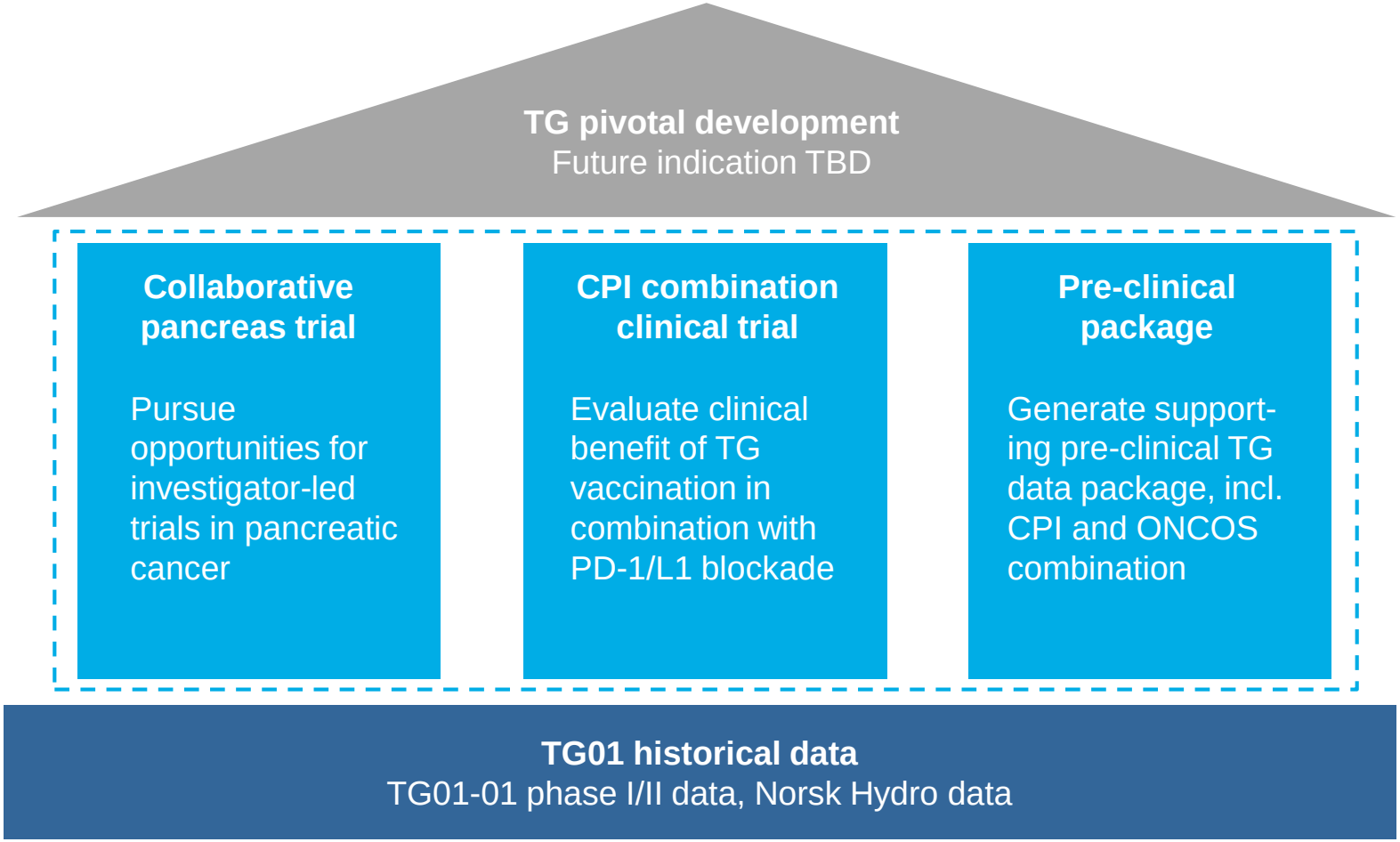
TG DEVELOPMENT STRATEGY OVERVIEW



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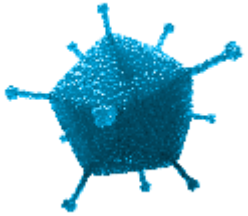
ONCOS-102 Program update

5. ONCOS-102 interim data in melanoma and mesothelioma
6. Financial and closing remarks

Targovax has two programs in clinical development, with an

ONCOLYTIC VIRUS LEAD PRODUCT CANDIDATE



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Activates the immune system

Triggers patient-specific responses

No need for individualization

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ONCOS-102 is a cancer targeting adenovirus armed with an

IMMUNE STIMULATING TRANSGENE

1

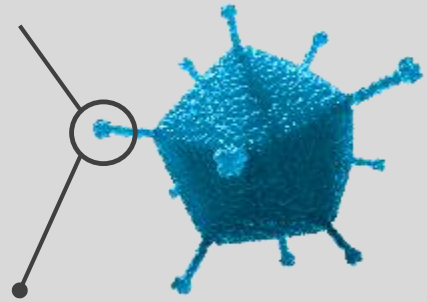
Selective replication
in cancer cells

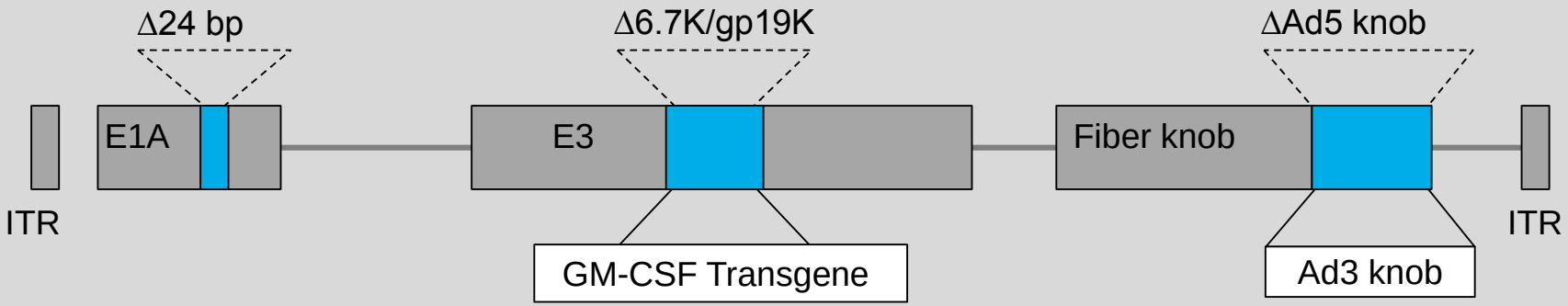
2

Boosting the **immune activation**

3

Enhanced infection
of cancer cells





ONCOS-102
Phase I proof of concept

IMMUNE ACTIVATION DEMONSTRATED

ONCOS-102 Phase I trial design:

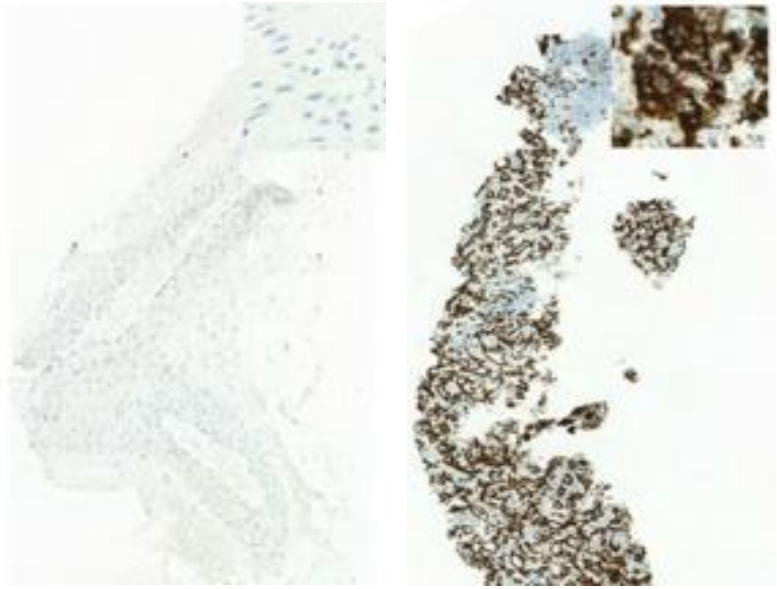
- 12 patients, 7 different solid tumors
- No other treatment options left
- Monotherapy 9 injections

Top-line results:

- 100% innate immune activation
- 11/12 patients increase in TILs
- 2 long-term survivors
- Abscopal effect observed
- Tumor specific T-cells in blood
- T-cell increase correlation with survival

Cold tumor turned hot

CD8+ T-cell staining



Pre-treatment **Post-treatment**

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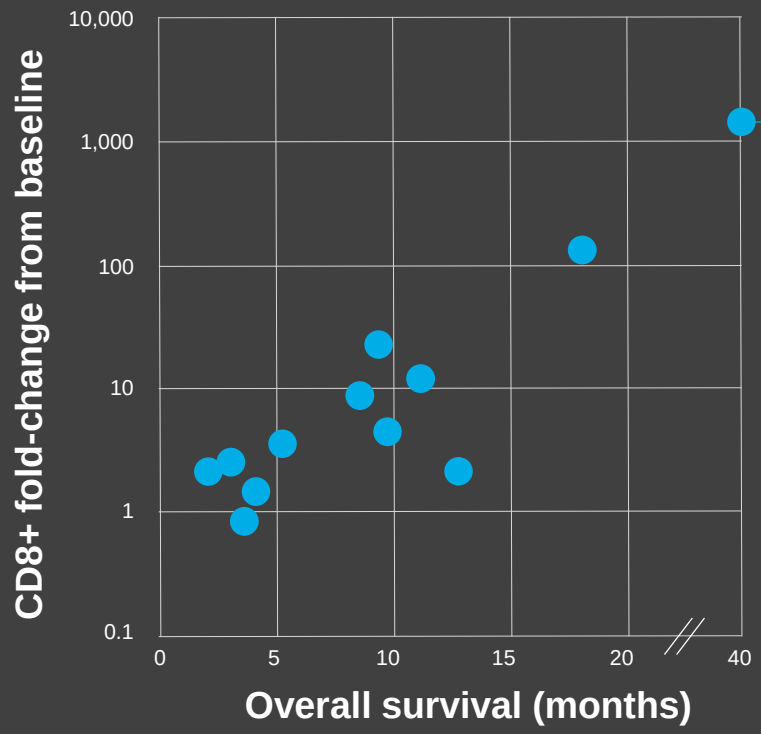
ONCOS-102

Phase I single agent proof of concept

CD8+ T-CELL INFILTRATION CORRELATES WITH SURVIVAL

Fold-change CD8+ T-cell count vs. survival

r = 0.75 p = 0.005



Case example

- Ovarian cancer
- Failed on 5 previous lines of therapy
- Tumor specific T-cells after 2 years
- Stable disease for 3 years
- Survived 3.5 years

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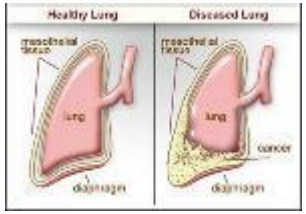
ONCOS

CLINICAL DEVELOPMENT STRATEGY

1

Path-to-market
Mesothelioma



Target launch indication

- Orphan drug status
- Ongoing phase I/II

2

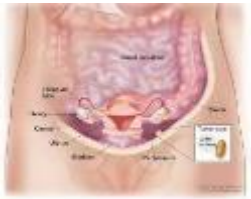
Proof-of-concept
CPI refractory

Indications with no/ limited effect of CPIs

- Ongoing melanoma Phase I

3

Proof-of-concept
New CPI indication

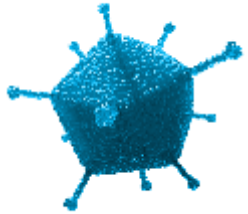


Peritoneal malignancies

- Ongoing Phase I/II in ovarian and colorectal

4

Next generation
oncolytic viruses



Targeting new indications

- Novel targets and mode-of-action
- Ongoing pre-clinical testing

SOURCE: Global Data, EU big 5 + US

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ONCOS-102 phase I/II development strategy

COVERING THE BASES

Delivery route

Local
Intra-tumoral injection ✓

Compartmental
Intra-peritoneal infusion ✓

Systemic
Intra-venous infusion *TBD future*

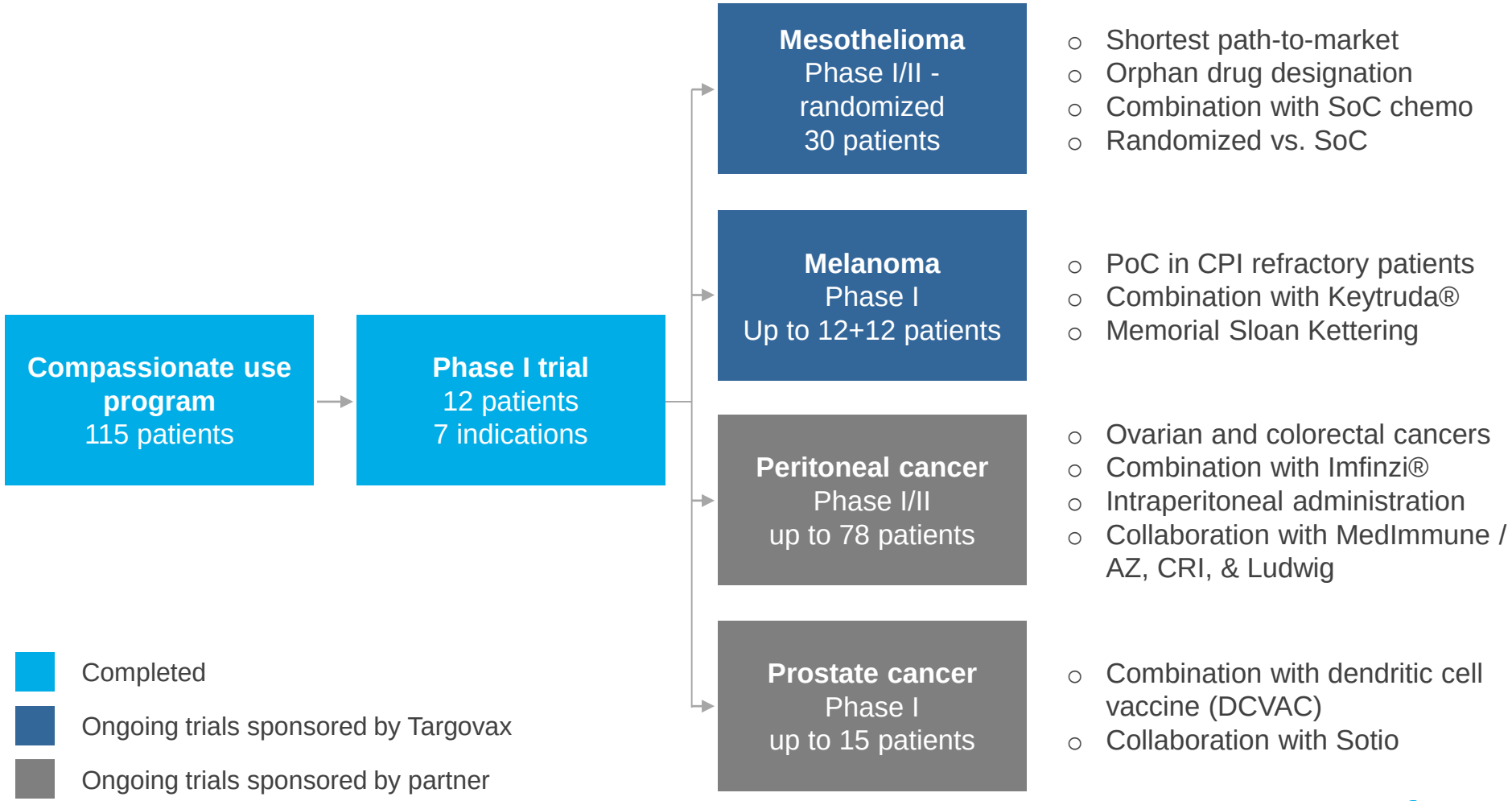
Combination therapy

Chemotherapy
Cytostatics, SoC ✓

Checkpoint inhibitor
PD-1 & PD-L1 blockade ✓

Cell therapy
DC vaccine ✓

ONCOS
CLINICAL PROGRAM OVERVIEW



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ONCOS-102 interim data in melanoma and mesothelioma

6. Financial and closing remarks

ONCOS-102 in melanoma

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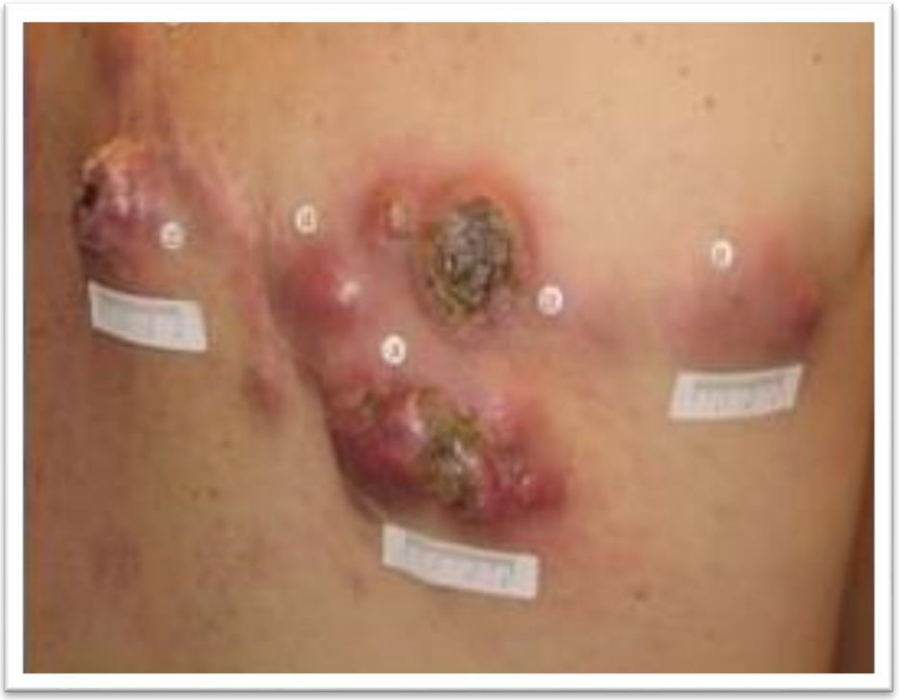
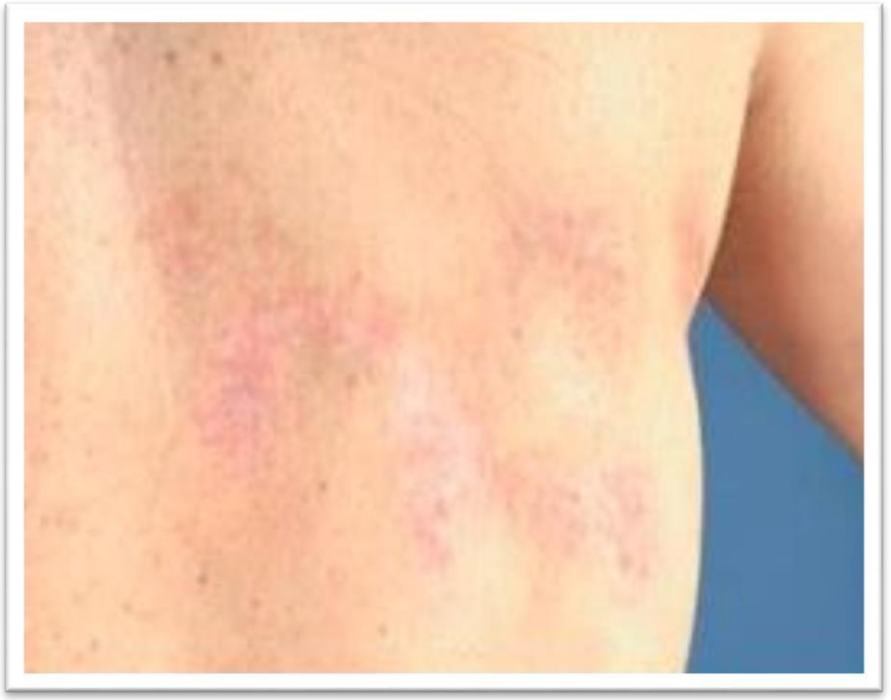
CHECK POINT INHIBITORS HAVE REVOLUTIONIZED THE TREATMENT OF MELANOMA…

Patient example – Yervoy® checkpoint inhibitor trial



Prior to Yervoy®

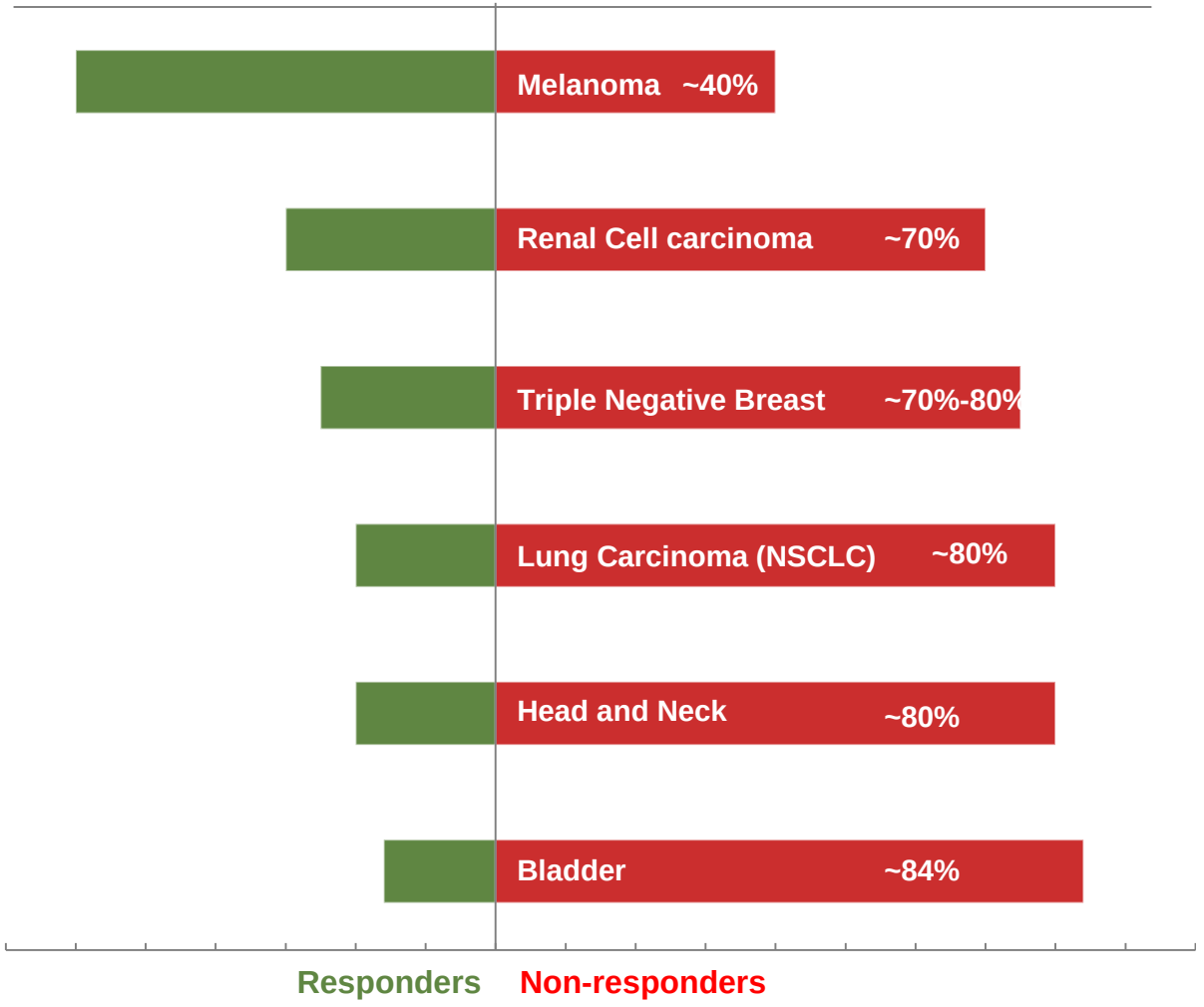


1 year after

28

…ALTHOUGH EVERY OTHER PATIENT DOESN'T RESPOND

Response rate to checkpoint inhibitors (CPIs)



"Tumor regression after PD-1 blockade requires pre-existing CD8+ T cells"

Paul Tumeh et al, Nature 2014

Checkpoint inhibitors don't work without the right T cells present

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TARGOVAX STUDY IN MELANOMA

***Hypothesis**: can ONCOS-102 change the tumor microenvironment (produce the right type of T cells, increase PD-1 expressions etc) to make Keytruda work in melanoma patients who don't respond to check point inhibition?*

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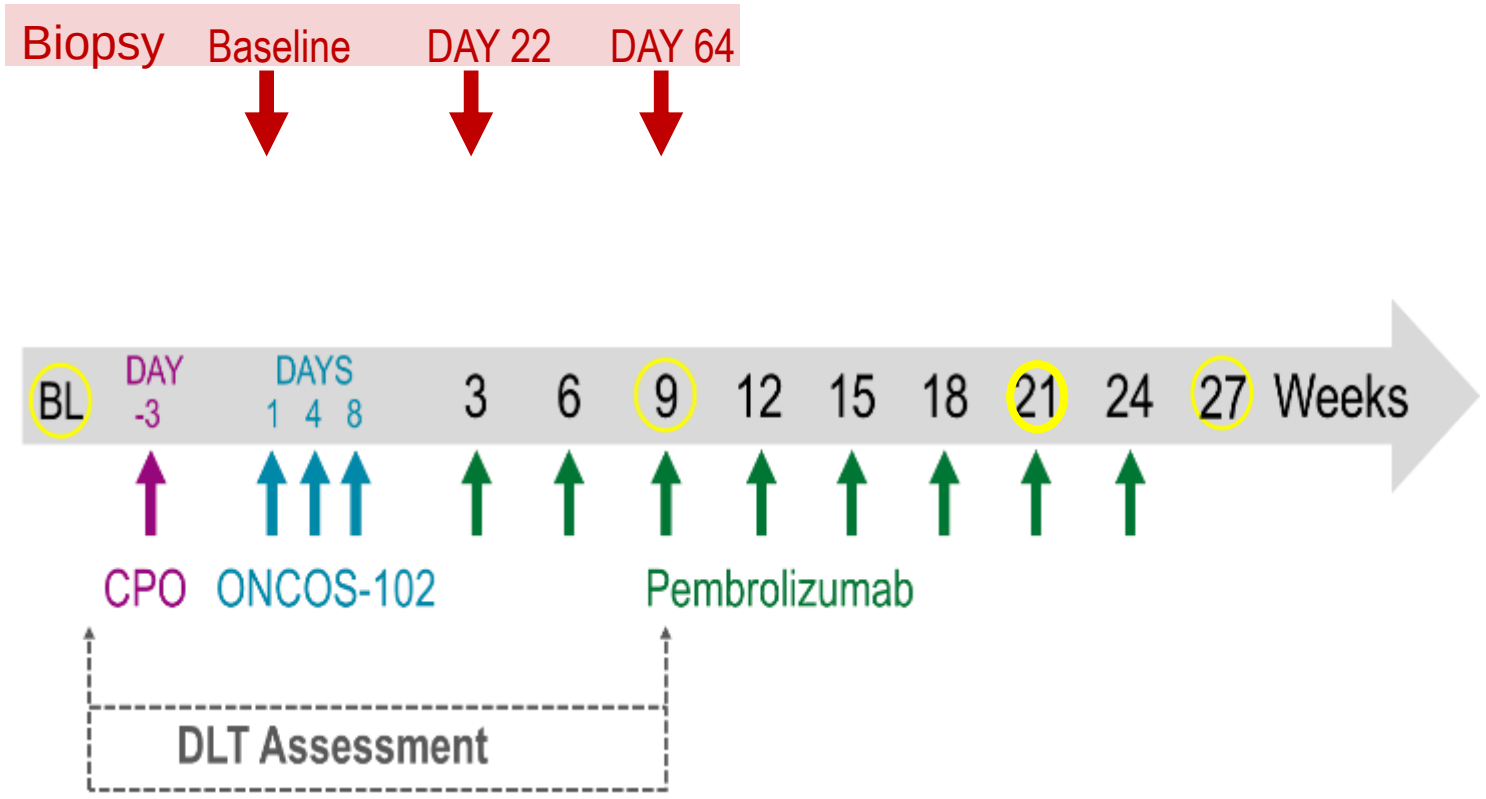
STUDY SCHEMA



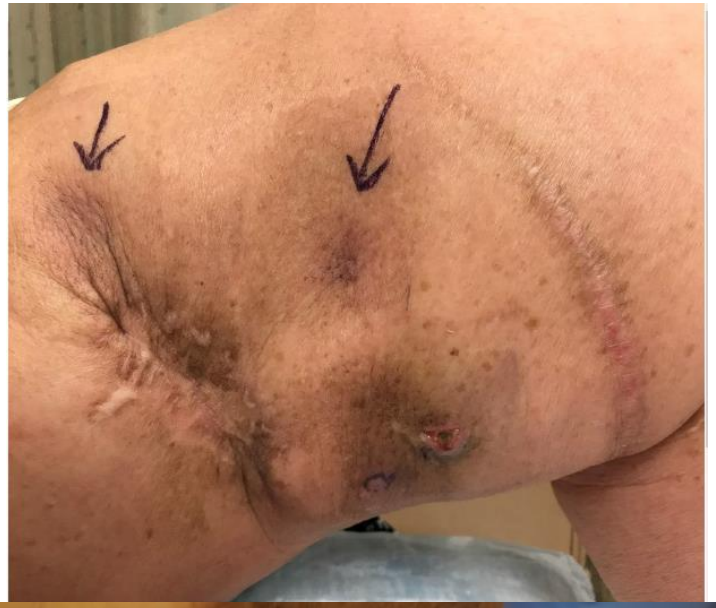
Imaging

87 year old female

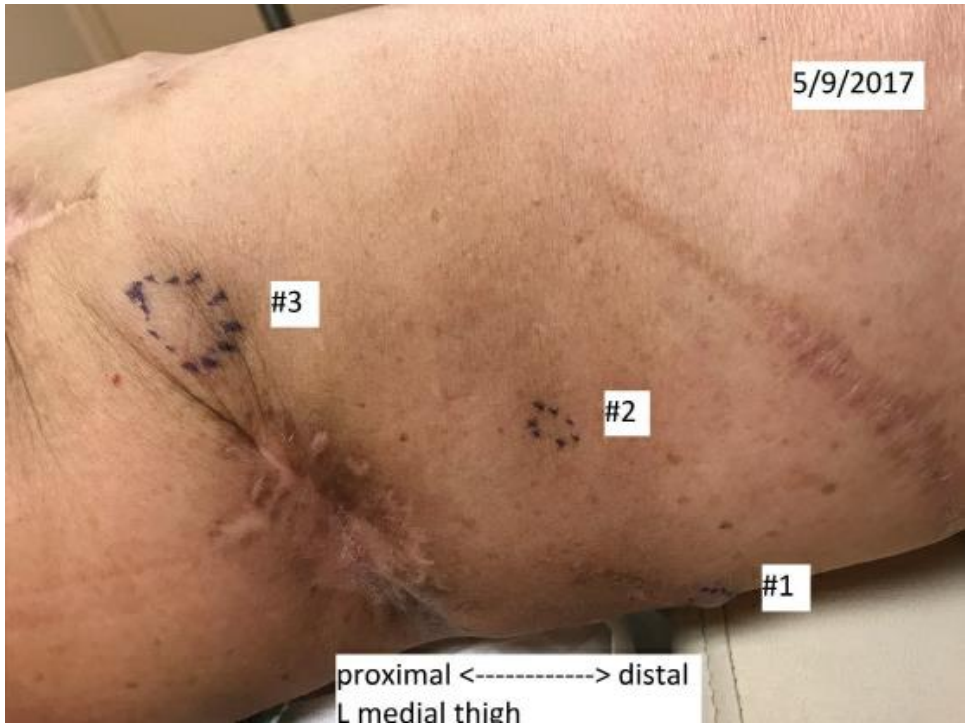
Surgery, Keytruda, T-VEC, Radiotherapy prior study

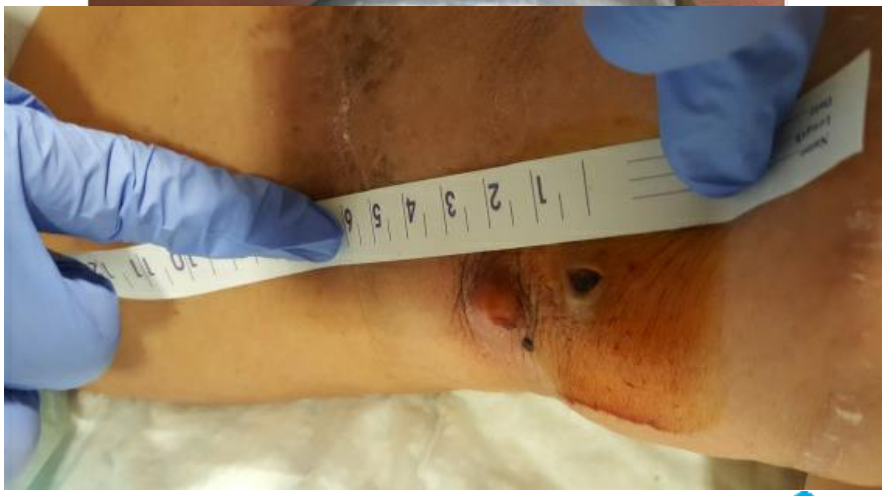
ORR: PD (did not receive full dose of ONCOS-102)

Day 10



Baseline





Day 22

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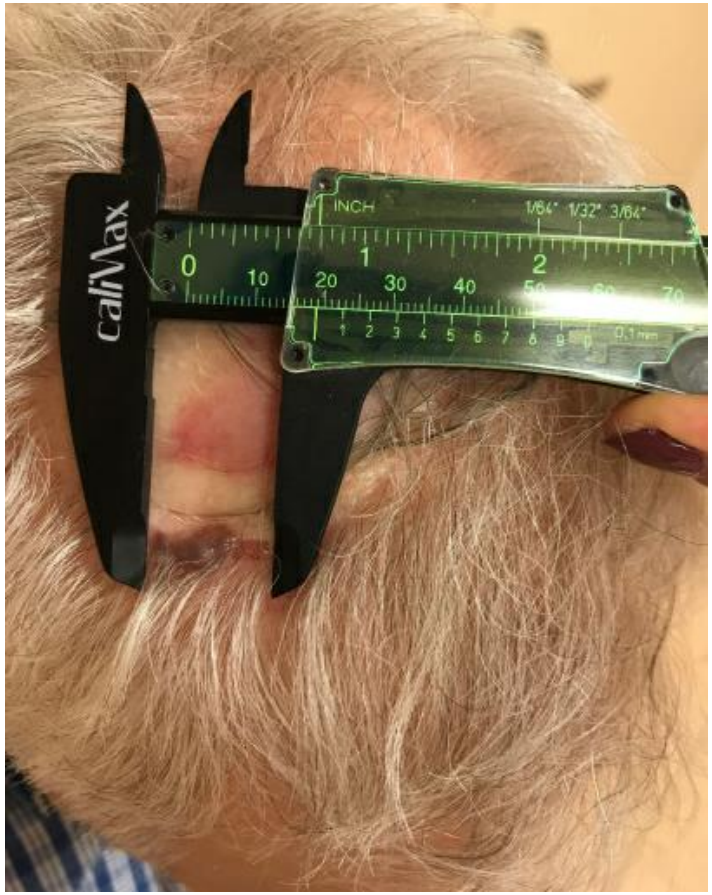
73 year old male

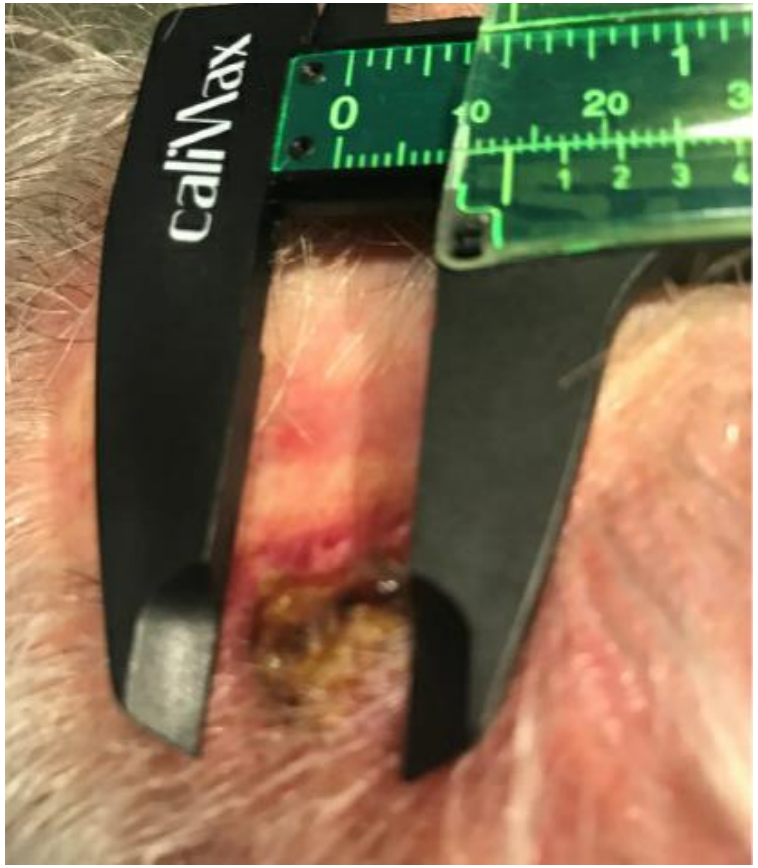
Surgery, Keytruda prior study

ORR: PD (did not receive full dose of ONCOS-102)

Baseline



Day 22



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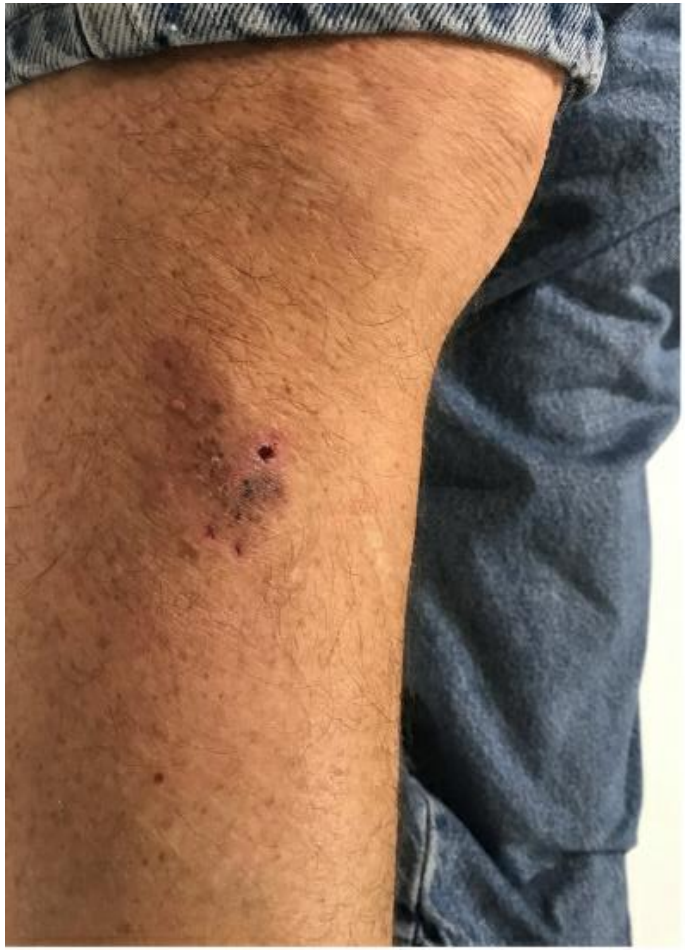
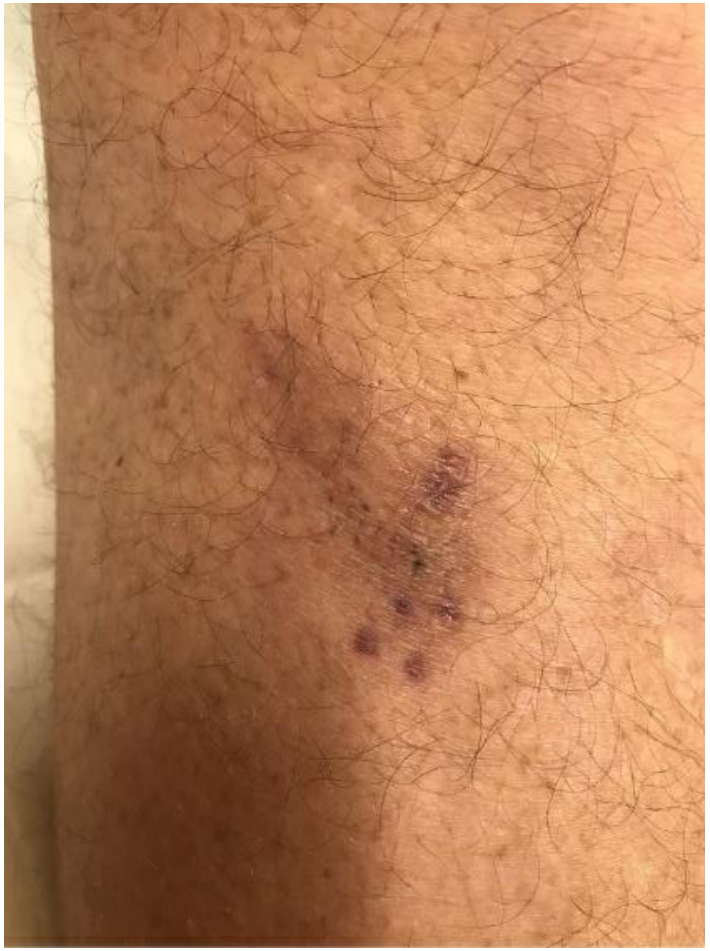
60 year old male

Surgery, Yervoy, Keytruda prior study

ORR: CR (after only 2 Keytruda infusions)

Baseline **Day 22** **Day 63**





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3 MORE PATIENTS

79 year old male; Yervoy, Keytruda, T-VEC prior study

- Shrinkage in injected lesion but new distant lesion
- ORR: PD

74 year old female; surgery and Opdivo prior study

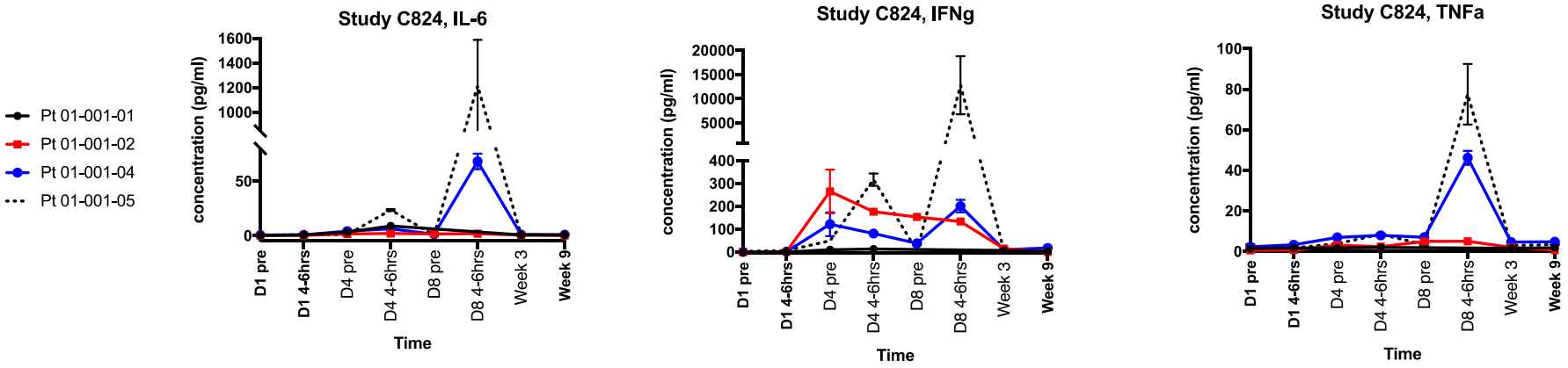
- ORR: PD

78 year old female; Yervoy, Opdivo, Keytruda prior study

- ORR: PD

ONCOS-102 INDUCE INNATE IMMUNE RESPONSE

- Increase of pro-inflammatory cytokines (IFN-y, TNF-a, IL-12p40, GM-CSF) after ONCOS-102 administration
- Increase of pro-inflammatory cytokines (IL-6 and IL-8) after ONCOS-102 administration
- Temporarily elevation level of IL-10 after second ONCOS-102 administration
- Profound increase of IL-6, TNFa and IFNg in patient with complete response



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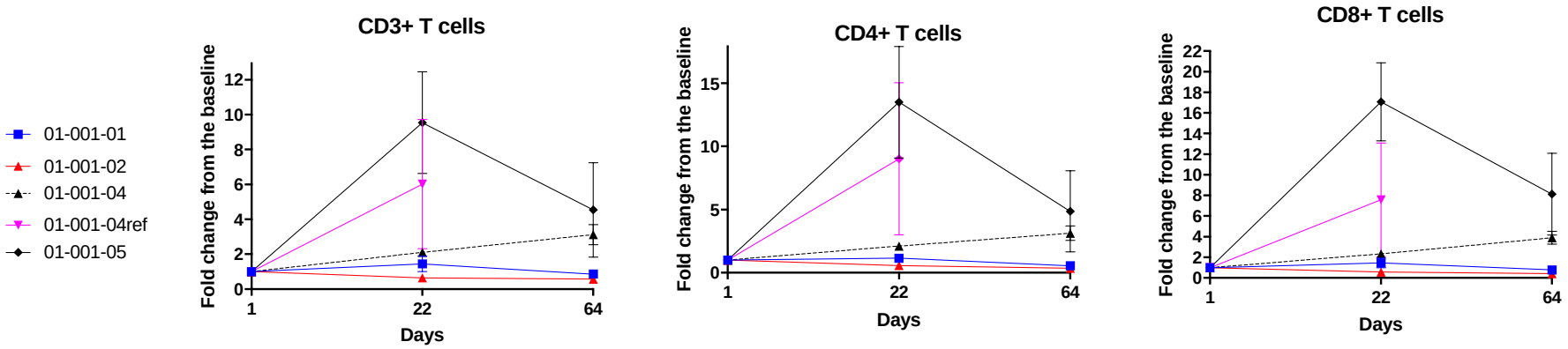
ONCOS-102 INDUCE ADAPTIVE IMMUNE RESPONSE



Patient with CR had highest relative increase of CD3+, CD4+, CD8+ cells

Patients with PD who got suboptimal dose of ONCOS-102 had the lowest level of immune activation

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ONCOS-102 INDUCE CANCER ANTIGEN SPECIFIC T CELLS

Measured by IFN gamma ELISPOT in PBMCs (baseline vs. post-treatment samples)

- One patient had de novo induction and development of tumor specific T cells against NY-ESO-1 and MAGE-A1 present in the PBMC on Week 3 and 9
- Patient with CR had presence of tumor specific T cells against MAGE-A1 on baseline, Week 3 and Week 18. The treatment may contribute in maintaining the level of MAGE-A1 throughout the treatment

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LESSONS LEARNT AND NEXT STEPS

- ONCOS-102 is well tolerated
- There is preliminary efficacy in a patient with PD-1 refractory disease
- Correlative analyses in the first 4 patients provide evidence supporting the proposed mechanism of action
- Transient shrinkage is seen for larger baseline lesions when injected with 3 doses of ONCOS-102, but it does not appear to persist
- If we could inject more doses of ONCOS-102, more lesions are likely to respond
- Protocol now changed to include continuation of ONCOS-102 during pembrolizumab infusions for the entire study duration
- Expansion of study with new dosing schedule and 2 more sites in US

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ONCOS-102 in mesothelioma

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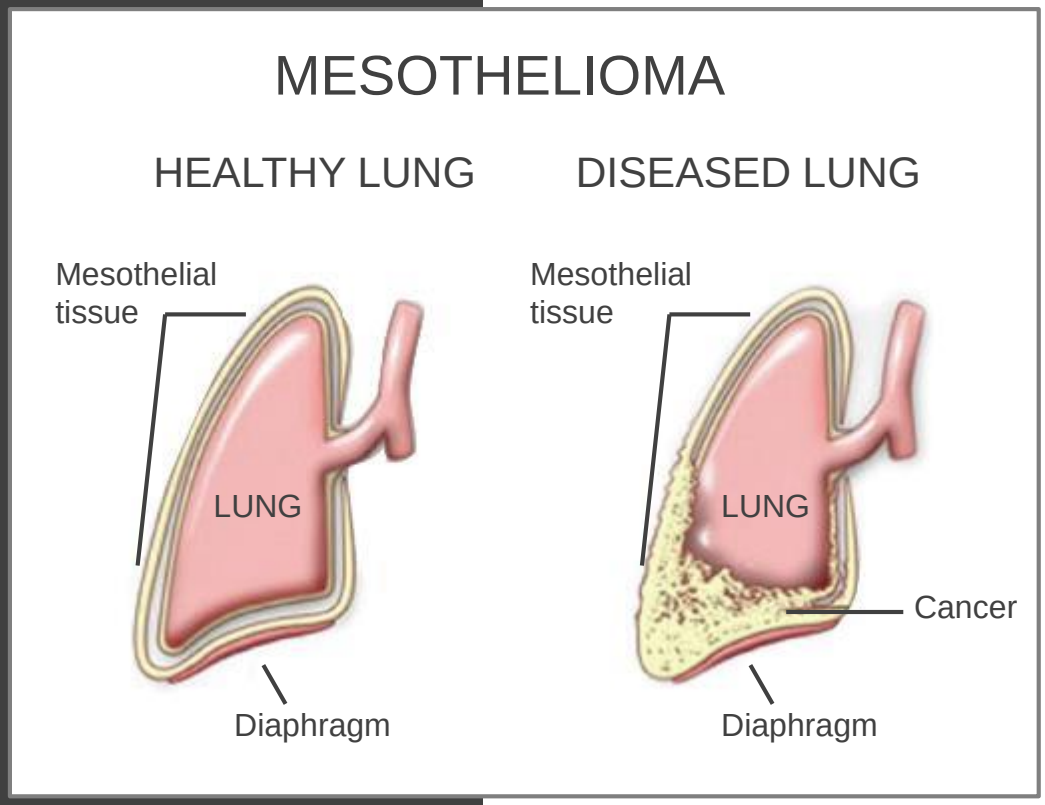
ONCOS-102 target launch indication

MALIGNANT PLEURAL MESOTHELIOMA

- **Orphan disease**, estimated 15,000 new cases per year (EU, USA, Australia)
- **Incidence is increasing** worldwide and is predicted to peak in 5-10 years
- Often **caused by asbestos** exposure, with a latency period of up to 40 years before diagnosis
- Aggressive cancer form with **median survival of 12 months**
- **No significant treatment advance** in the last decade



MESOTHELIOMA IS SHORTEST PATH-TO-MARKET

Rationale for ONCOS-102 opportunity in mesothelioma:

Become frontline therapy

- **Preclinical data and phase I results** indicate potential of ONCOS-102 in mesothelioma
- **Ongoing randomized phase I/II trial** combining ONCOS-102 with SoC chemotherapy
- **Good safety profile**

Orphan Drug Designation

- High unmet medical need, ONCOS-102 has **orphan drug designation**
- Opportunity for priority regulatory review, and **quick route-to-market**
- 7 year **market exclusivity** in the US and 10 years in the EU

Limited competition

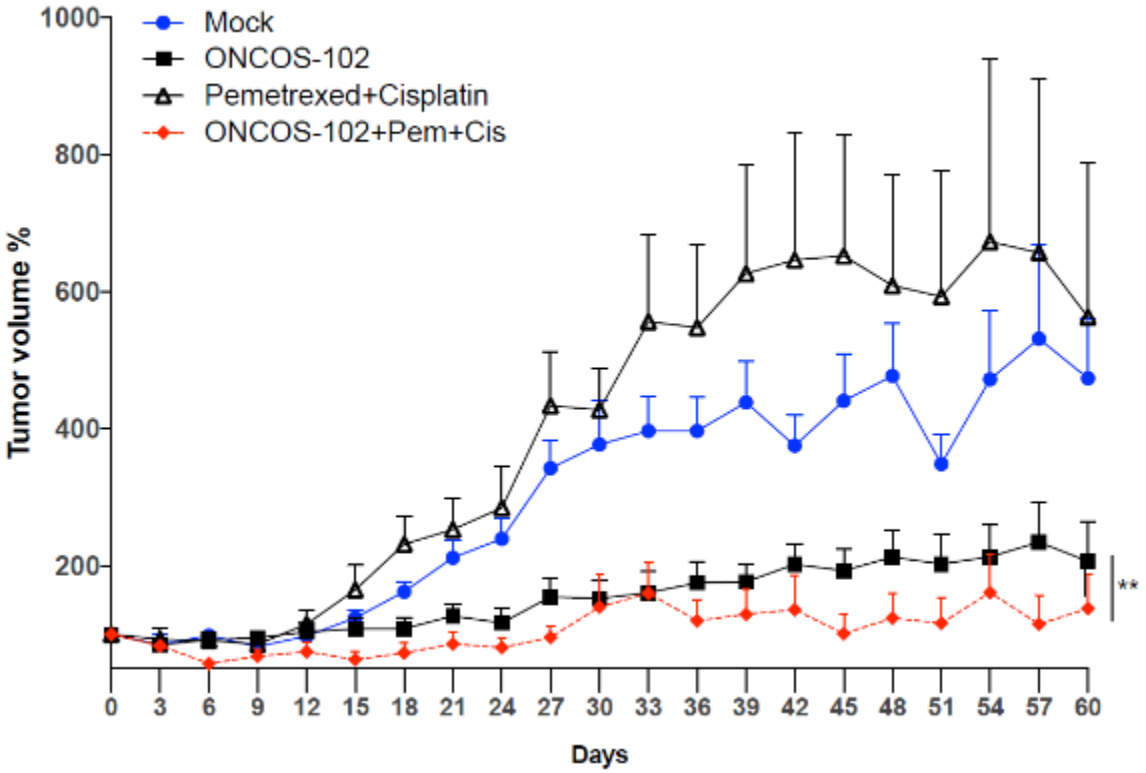
- CPIs show some early signs of efficacy, and are **potential ONCOS-102 combinations**, rather than competitors
- **No competing viruses** and few vaccines in current clinical development in mesothelioma

SYNERGY BETWEEN ONCOS-102 AND CHEMOTHERAPY

mesothelioma mouse model

Anticancer effect of ONCOS-102 and standard of care chemotherapy in xenograft mouse mesothelioma model

% change in tumor volume, 7 animals per group (14 tumors/group)



Effects observed at Day 60:

ONCOS vs. mock

56% tumor volume reduction
p < 0.01

ONCOS vs. pem/cis

63% tumor volume reduction
p < 0.01

ONCOS+pem/cis vs. pem/cis

75% tumor volume reduction
p < 0.001

ONCOS+pem/cis vs ONCOS

33% tumor volume reduction
p < 0.01

SOURCE: Kuryk et al., Int J Cancer, 10 June 2016

ONCOS-102 CAN TURN MESOTHELIOMA LESIONS HOT

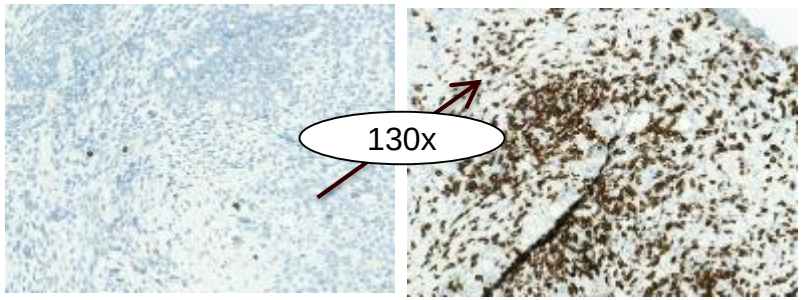
Phase I

CD8+ T-cells in tumor
Tumor biopsy staining

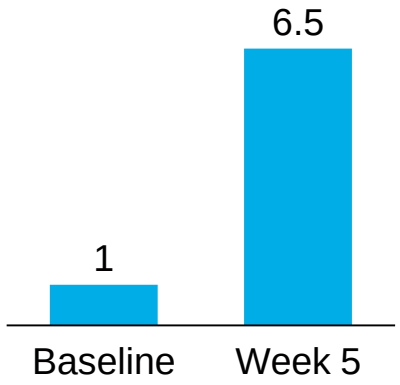
CD4+ T-cells in tumor
Fold change

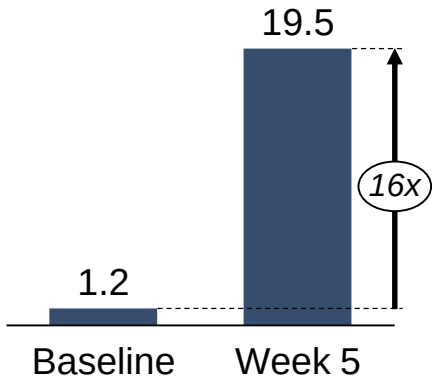
PD-L1 positive tumor cells
% of total

Mesothelioma *– Phase I, patient 14*

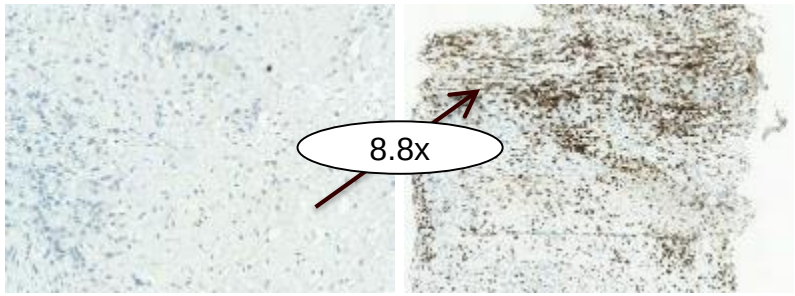


Baseline Week 5

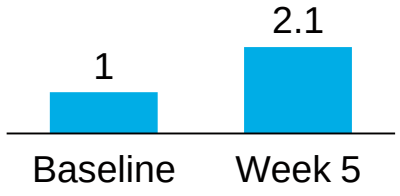


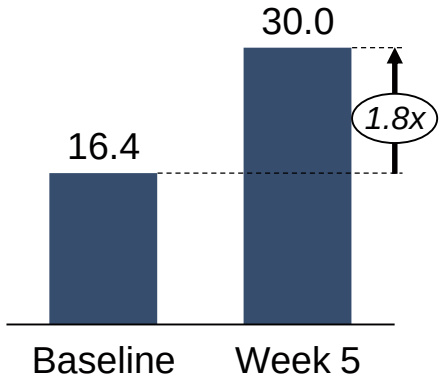


Mesothelioma *– Phase I, patient 9*



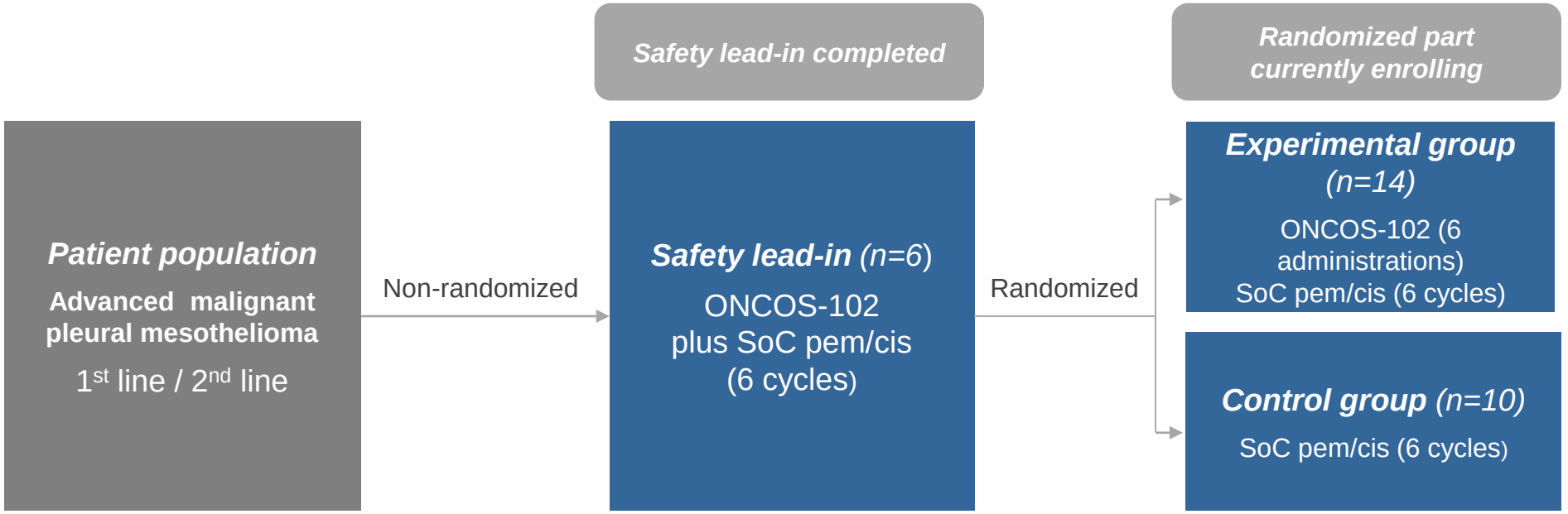
Baseline Week 5



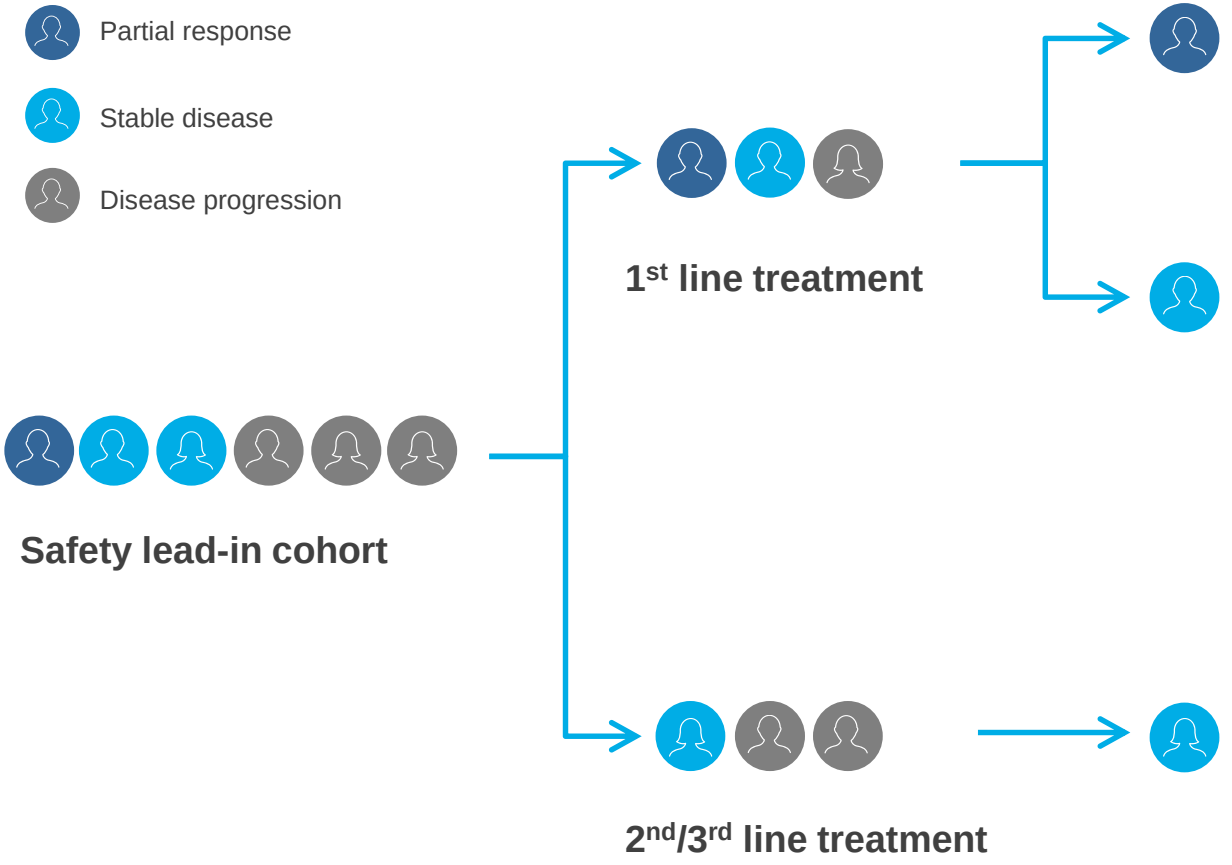


Ranki et al., Journal for Immunotherapy of Cancer 2016, 4(17)

PHASE I/II STUDY DESIGN IN COMBINATION WITH SoC



CLINICAL RESPONSES IN SAFETY COHORT



- 50% tumor reduction (CT)
- Partial metabolic response (PET)

- Stabilized tumor (CT)
- No metabolic change (PET)

- Previously progressed on pem/cis in 1st line
- Stabilized tumor (CT)
- Partial metabolic response (PET)
- 9x increase in CD8+ T cells in biopsy
- MAGE-A1 activated tumor specific T cells
- 14x increase in CD4+ T cells in biopsy

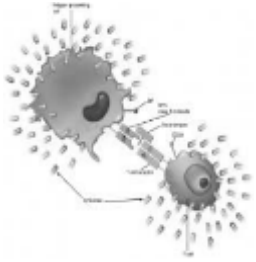
SIGNAL OF EFFICACY IN THE FIRST 6 PATIENTS

1
Safety

- ✓ ONCOS-102 **well-tolerated** in combination **with chemotherapy**

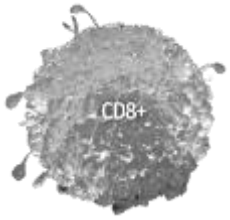
2
Innate immune activation

- ✓ **Systemic increase of pro-inflammatory cytokines** in 6/6 patients (IL-6, TNFα and IFNγ)



3
Adaptive immune activation

- ✓ Increase in **tumor infiltration of CD4+ and CD8+ T-cells** in 3/4 patients



4
Clinical benefit

- ✓ **Signal of clinical benefit** seen in **3/6 patients** after 6 months
- ✓ **50% disease control rate**

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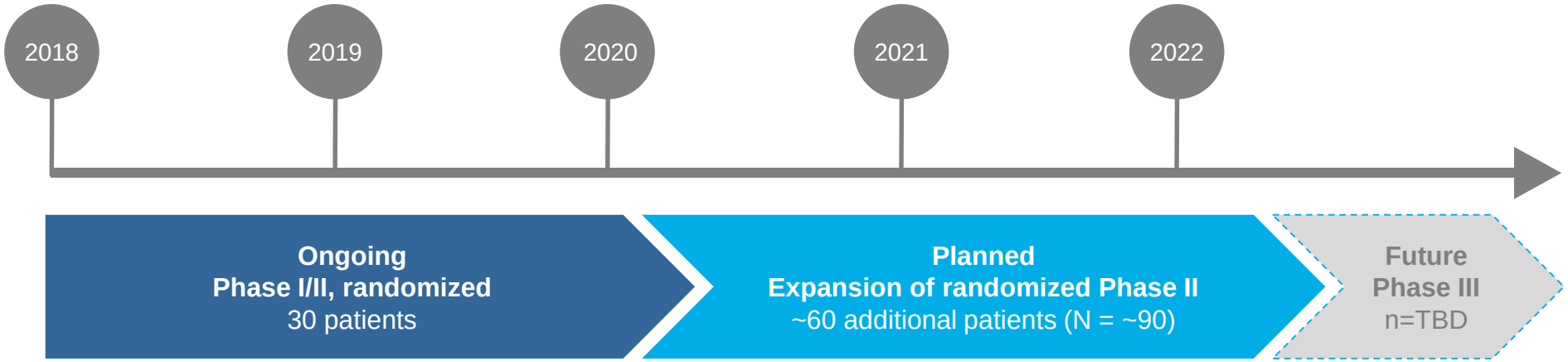
ONCOS-102 in malignant pleural mesothelioma

DEVELOPMENT STRATEGY AND INDICATIVE TIMELINES



- Randomized ORR and OS data 30 patients
- Decide on possible CPI combination arm
- EMA & FDA advisory meetings

- Randomized ORR and OS data 90 patients
- Potentially use as basis for a submission for conditional approval
- Start Phase III OS trial for full MAA

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6 Financial and Closing remarks

TARGOVAX HAS A SOUND FINANCIAL POSITION

with cash to complete the planned clinical program into 2020

Operations

Cash end of 2Q - Jun 30th 2018

201 / 25

NOK million **USD million**

Net cash flow - total 2Q

-28 / -3

NOK million **USD million**

Annual run rate - last four quarters

109 / 13

NOK million **USD million**

The share

Market Cap - at share price NOK ~11

600 / 70

NOK million **USD million**

Daily turnover - rolling 6 month avg.

2.6 / 0.3 / 0.5

NOK million **USD million** **% of share capital**

Analyst coverage

DNB, ABG Sundal Collier, Arctic, Redeye, Edison

R&D PIPELINE OVERVIEW AND MILESTONES

Platform	Product candidate	Preclinical	Phase I	Phase II	Phase III	Last event	Next expected event
ONCOS oncolytic adenovirus	ONCOS-102	**Mesothelioma** Comb. w/ pemetrexed/cisplatin[1]				Phase Ib safety lead-in cohort, incl. immune activation and ORR data (6 pts)	**1H 2020** Randomized ORR data 30 pts
		Melanoma Comb. w/KEYTRUDA®				ORR and immune activation (6 pts), 1/6 CR	**1H 2019** ORR and immune data first cohort
		Peritoneal cancers[2,3] Collab: Ludwig, CRI & AZ Comb. w/IMFINZI®				First dose escalation cohort safety review (4 pts)	*Update by collaborator, expected 2019*
		Prostate[3] Collab: Sotio Comb. w/DCVAC				First patient dosed	*Update by collaborator, expected 2019*
	Next-gen ONCOS	**3 viruses** undisclosed				Virus construct cloning and *in vitro* validation	**2H 2019** Target disclosure and *in vivo* data
TG neo-antigen cancer vaccine	**TG01**	**Pancreatic cancer** Comb. w/gemcitabine				mOS 33.4 months Demonstrated mutant RAS-specific immune activation	TBD
	TG02	**Colorectal cancer** Proof-of-mechanism Comb. w/KEYTRUDA®				First safety review, incl. immune activation data (3 pts)	**1H 2019** Immune activation and mechanistic data
	TG02	**CPI synergy** TG + PD-1					**1H 2019** TG02 + PD-1 combination *in vivo* data

1 Current standard of care chemotherapy for patients with unresectable malignant pleural mesothelioma
2 Patients with advanced peritoneal disease, who have failed prior standard chemotherapy and have histologically confirmed platinum-resistant or refractory epithelial ovarian or colorectal cancer
3 Trials sponsored by collaborators

Ongoing collaborator sponsored trials

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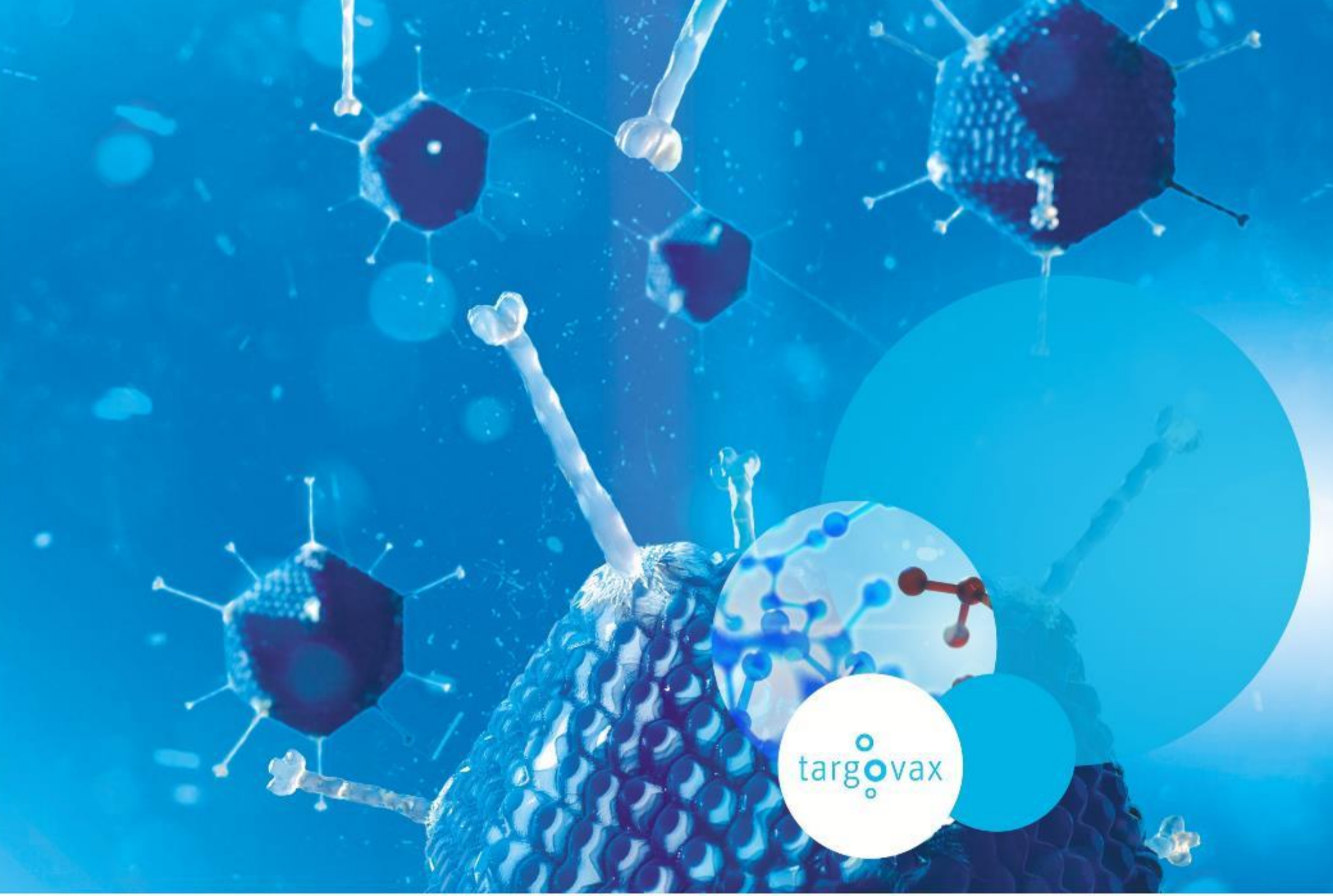
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