

# Redeye pre-ASCO seminar

Dr. Erik D Wiklund - CBO

28 May 2019

targovax

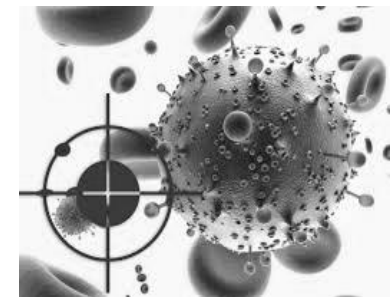
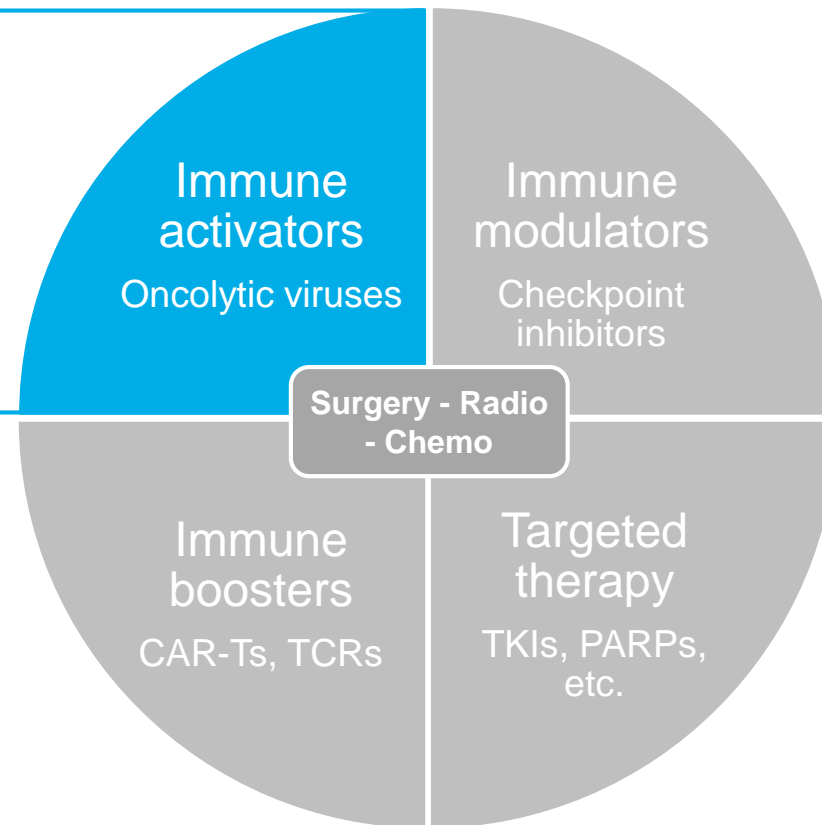
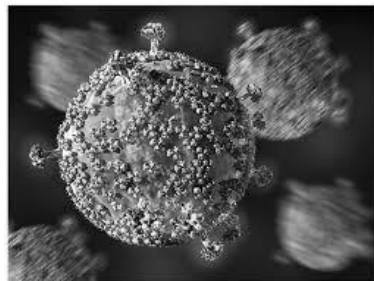
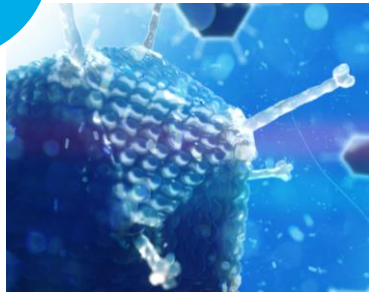
# IMPORTANT NOTICE AND DISCLAIMER

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.

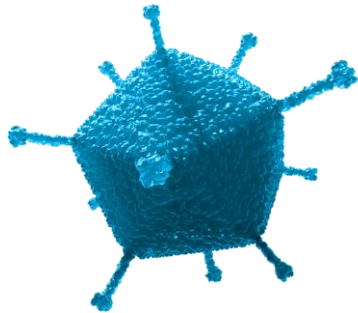
There are a number of factors that could cause actual results and developments to differ materially from those expressed or implied in these forward-looking statements. These factors include, among other things, risks or uncertainties associated with the success of future clinical trials; risks relating 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' 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.

# ONCOLYTIC VIRUSES IN THE FUTURE CANCER THERAPY LANDSCAPE

Targovax  
focus



# ONCOS PROGRAM HIGHLIGHTS



## ONCOS oncolytic virus

Adenovirus Serotype 5

- Genetically engineered to **selectively infect cancer cells**
- Turns cold **tumors hot**
- Single agent **phase I trial completed**
- **Four ongoing** clinical trials
- **Combination** with both **checkpoint inhibitors** and **chemotherapy**
- **Rich news flow** over the next 24 months

*Activates the  
immune system*

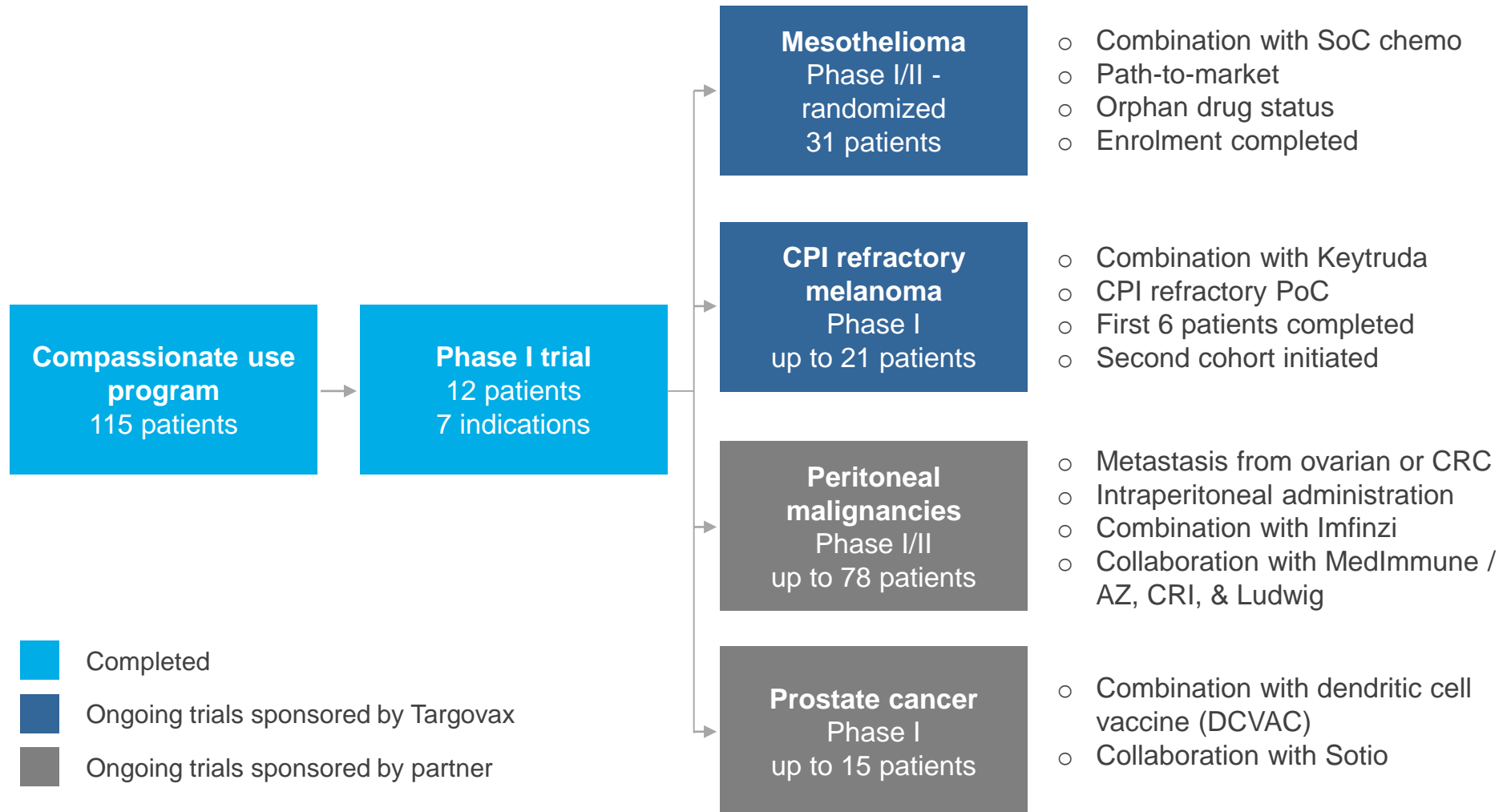
---

*Triggers patient-  
specific immune  
responses*

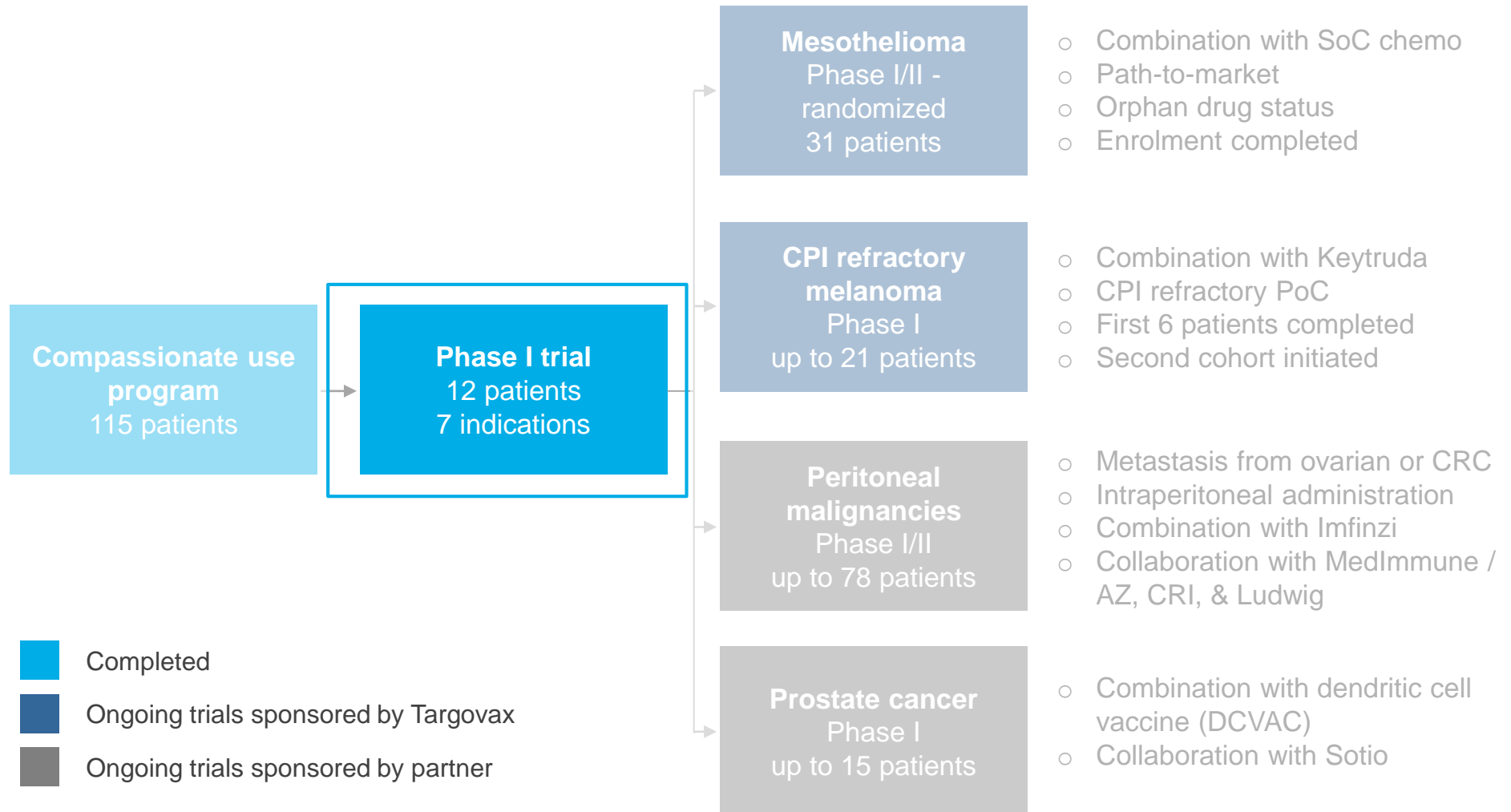
---

*No need for  
individualization*

# ONCOS-102 CLINICAL DEVELOPMENT PROGRAM



# ONCOS-102 PHASE I SINGLE AGENT DATA





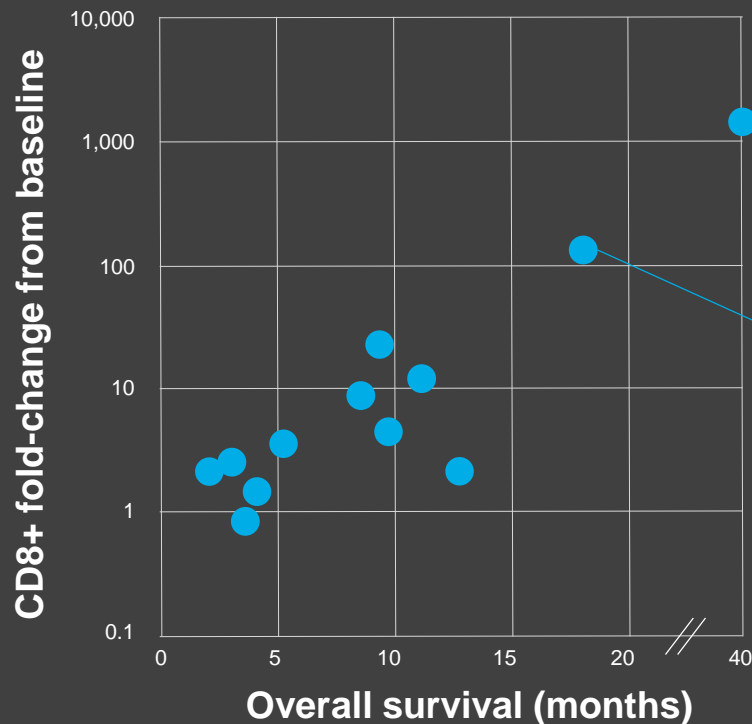
# ONCOS-102

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 #1 – Ovarian cancer

- Failed on 5 types of chemotherapy
- **>1,000-fold increase** in CD8+ T-cell infiltration
- **Stable disease for 3 years**, survived for 3.5 years

### Case example #2 – Mesothelioma

- Radio- and chemotherapy refractory
- **130-fold increase** in CD8+ T-cell infiltration
- **47% reduction of tumor on PET** 6 weeks after last ONCOS-102 injection, survived 18 months

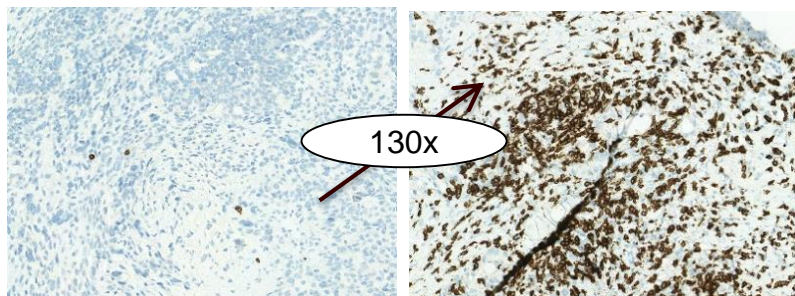
# ONCOS-102 MONOTHERAPY IN MESOTHELIOMA

turning cold tumors hot

## CD8+ T-cells in tumor

Tumor biopsy staining

### *Mesothelioma – Phase I, patient 14*

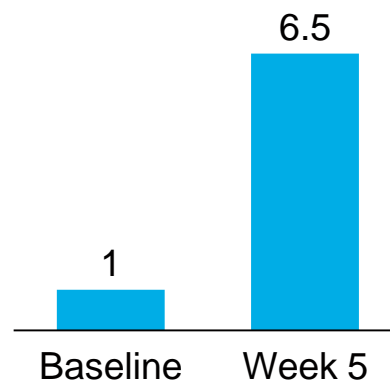


Baseline

Week 5

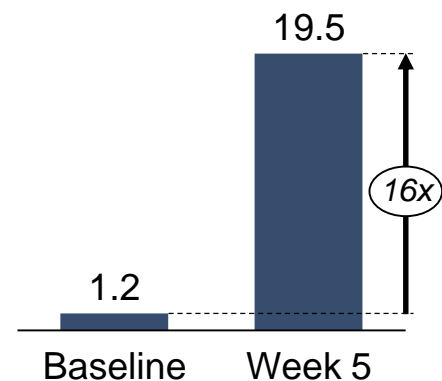
## CD4+ T-cells in tumor

Fold change

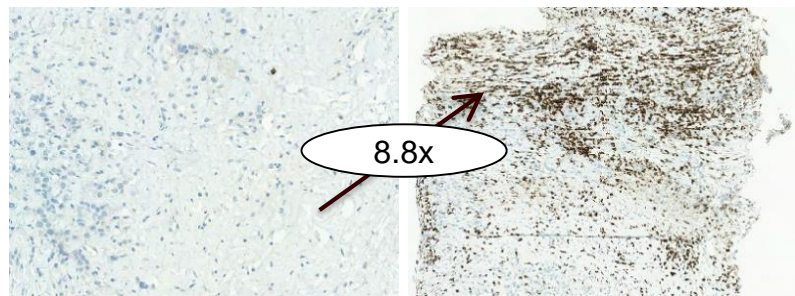


## PD-L1 positive tumor cells

% of total

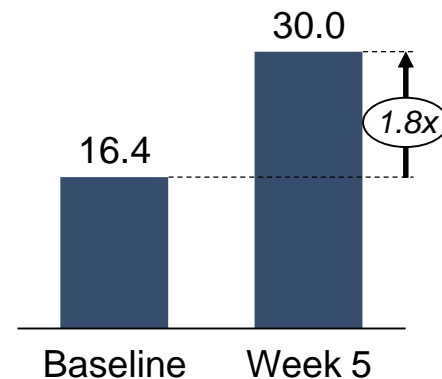
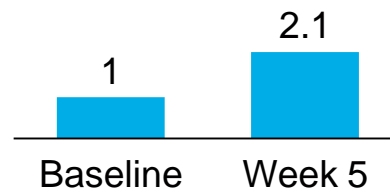


### *Mesothelioma – Phase I, patient 9*



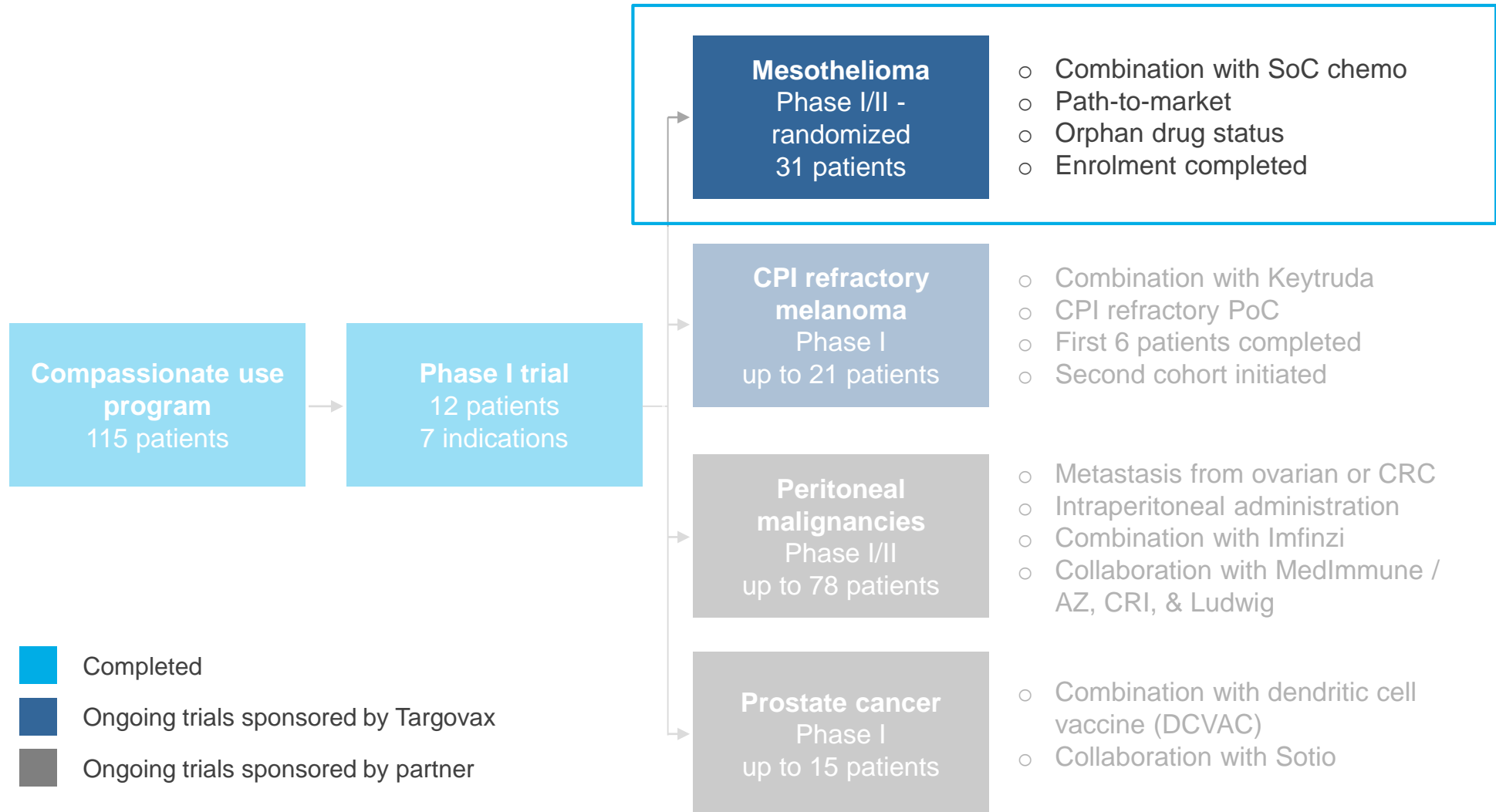
Baseline

Week 5



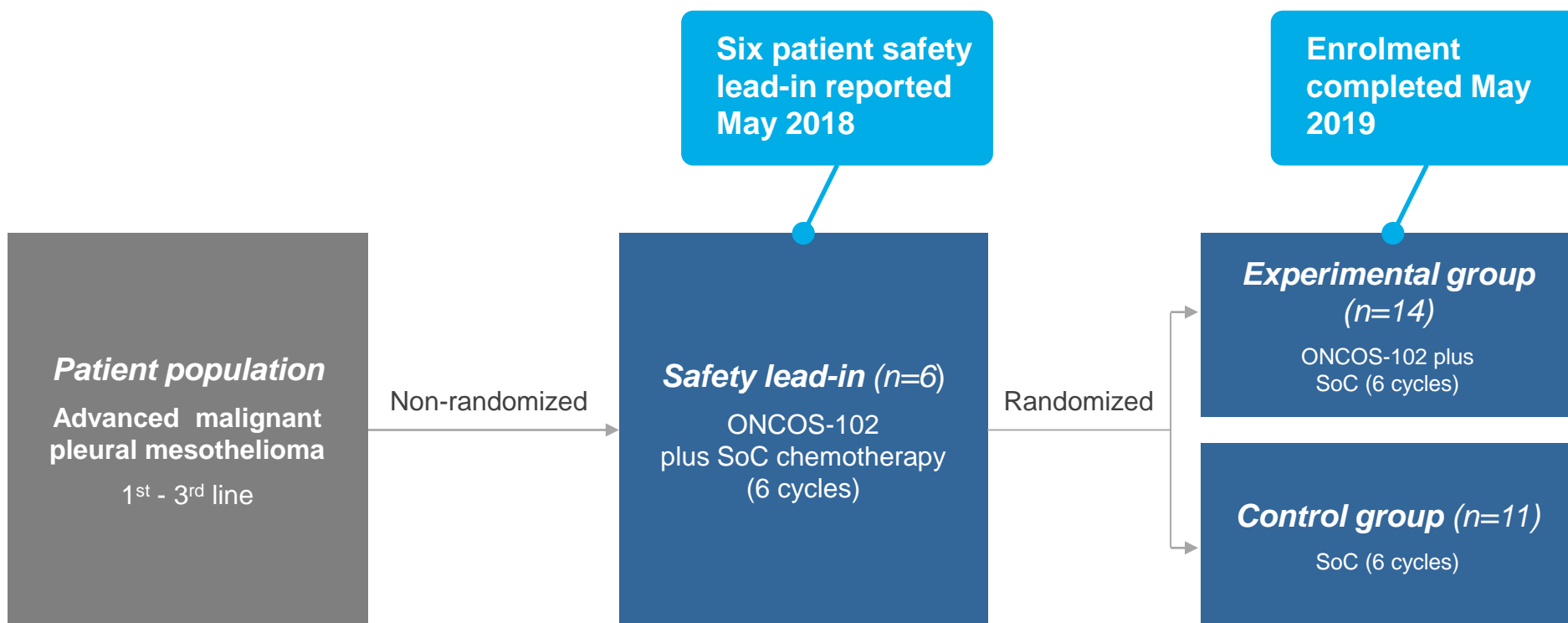


# ONGOING ONCOS-102 PHASE II IN MESOTHLIOMA



# ONCOS-102 in malignant pleural mesothelioma

## PHASE I/II STUDY DESIGN IN COMBINATION WITH SoC



# ONCOS-102 + SoC MESOTHELIOMA TRIAL

data summary first 6 patients

1

## Safety

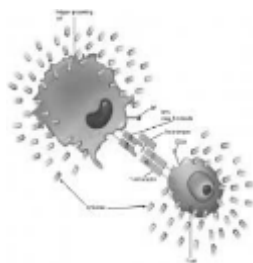
- ✓ ONCOS-102 **well-tolerated** in combination **with chemotherapy**



2

## Innate immune activation

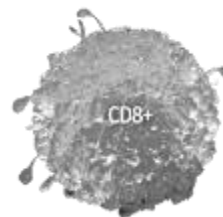
- ✓ **Systemic increase of pro-inflammatory cytokines** in 6/6 patients



3

## Adaptive immune activation

- ✓ Increase in **tumor infiltration of CD4+ and CD8+ T-cells** in 3/4 patients
- ✓ **Tumor-specific T-cells** in 2/6 patients



4

## Efficacy

- ✓ **One partial response (PR)** and two stable disease (SD)
- ✓ **50% disease control rate**



# MESOTHELIOMA ONCOS-102 PATH-TO-MARKET

*Rationale for ONCOS-102 go-to-market strategy in mesothelioma:*

## Become frontline therapy

- **Preclinical data and phase I results** indicate activity 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, but are **potential ONCOS-102 combinations**, rather than competitors
- **No competing viruses** and few vaccines in current clinical development in mesothelioma

# RICH NEAR-TERM NEWS FLOW

## ONCOS program pipeline overview

Product candidate	Preclinical	Phase I	Phase II	Phase III	Next expected event
ONCOS-102	<b>Mesothelioma</b> Combination w/ pemetrexed/cisplatin				<b>Around new year 2020</b> Randomized ORR data
	<b>Melanoma</b> Combination w/Keytruda				<b>1H 2019</b> ORR and immune data first patient cohort
	<b>Peritoneal metastasis<sup>1</sup></b> Collaborators: Ludwig, CRI & AZ Combination w/Imfinzi				<i>Update by collaborator</i>
	<b>Prostate</b> Collaborator: Sotio Combination w/DCvac				<i>Update by collaborator</i>
Next-gen ONCOS	<b>3 new viruses</b> Double transgene				<b>2H 2019</b> First pre-clinical data

■ Ongoing collaborator sponsored trials





# ACTIVATING THE PATIENT'S IMMUNE SYSTEM

to fight cancer

## Clinically proven

One of the furthest developed  
oncolytic viruses

Strong single agent data

## Rich news flow

Several upcoming data points

## Innovative pipeline

Next generation  
viruses in testing