

# Targovax

ABGSC Biotech Oncology seminar

11 June 2019

Øystein Soug, CEO



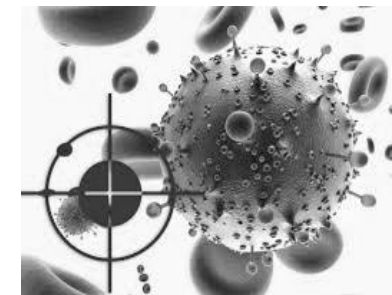
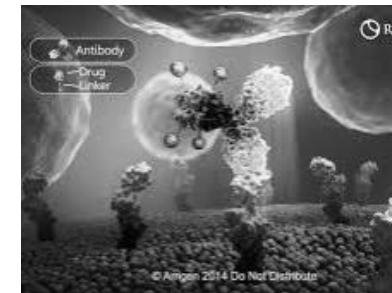
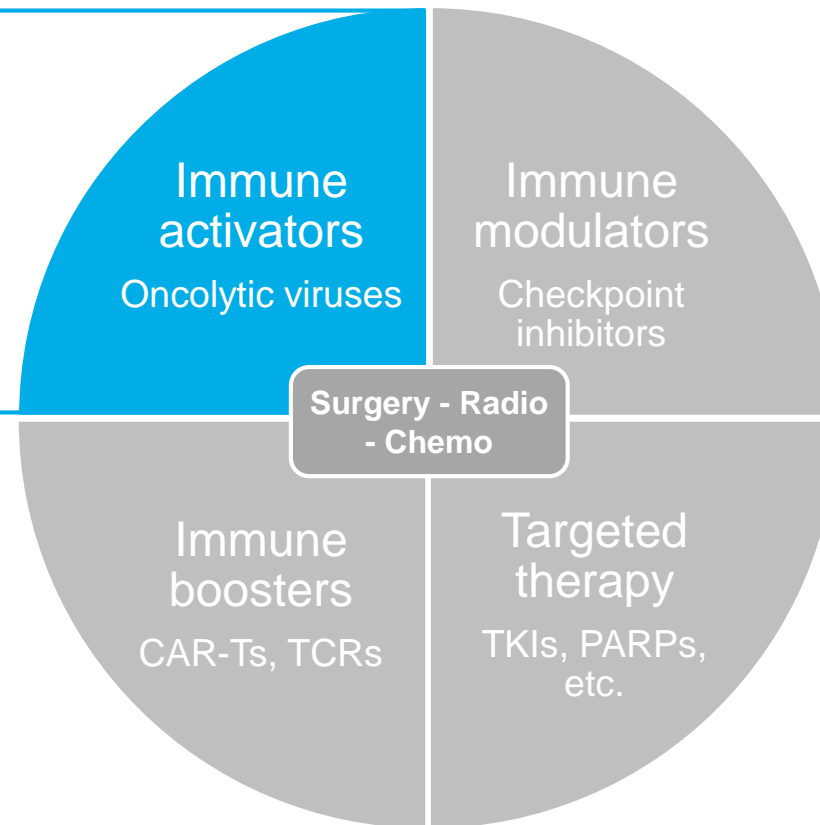
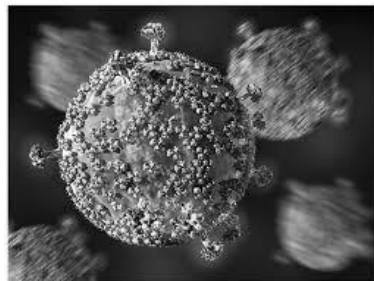
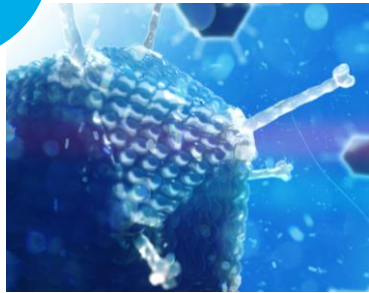
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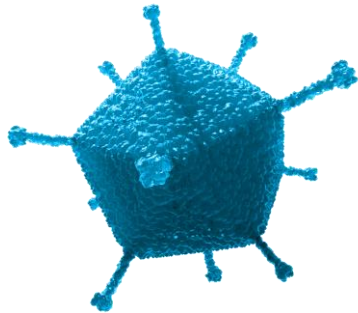
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# ONCOLYTIC VIRUSES IN THE FUTURE CANCER THERAPY LANDSCAPE

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

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*Activates the  
immune system*

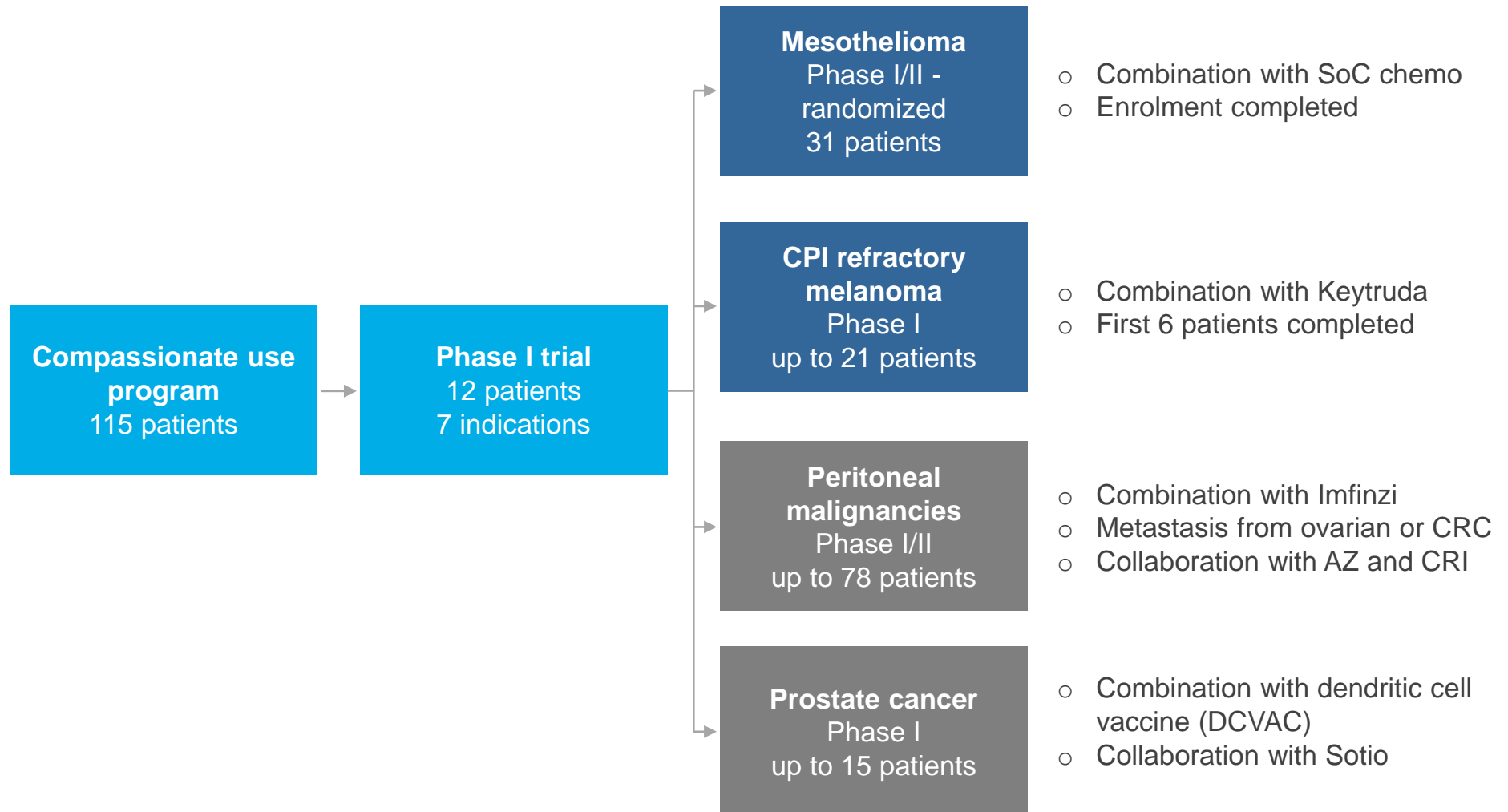
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*Triggers patient-  
specific immune  
responses*

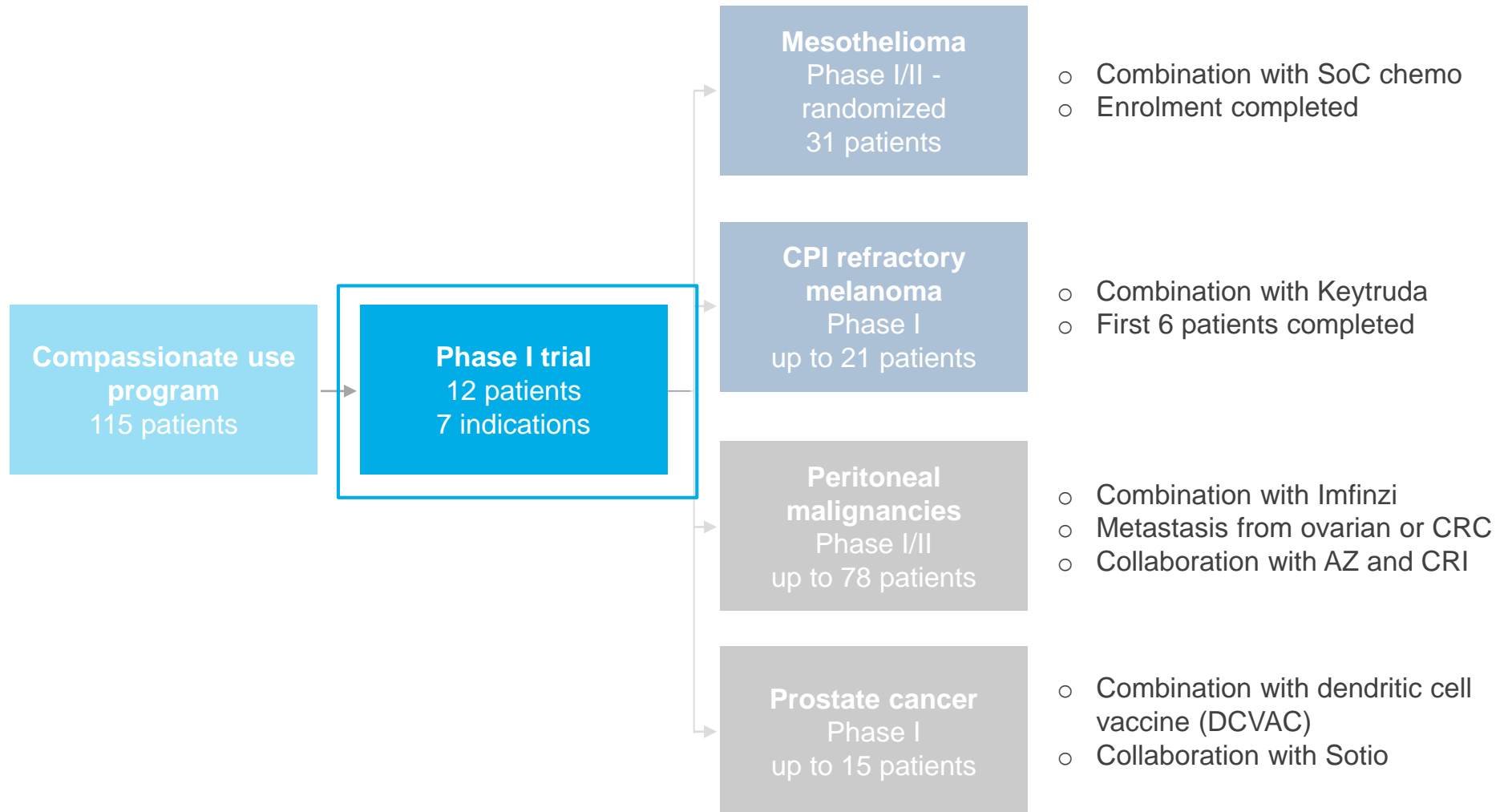
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*No need for  
individualization*

# ONCOS-102 CLINICAL DEVELOPMENT PROGRAM



# ONCOS-102 CLINICAL DEVELOPMENT PROGRAM





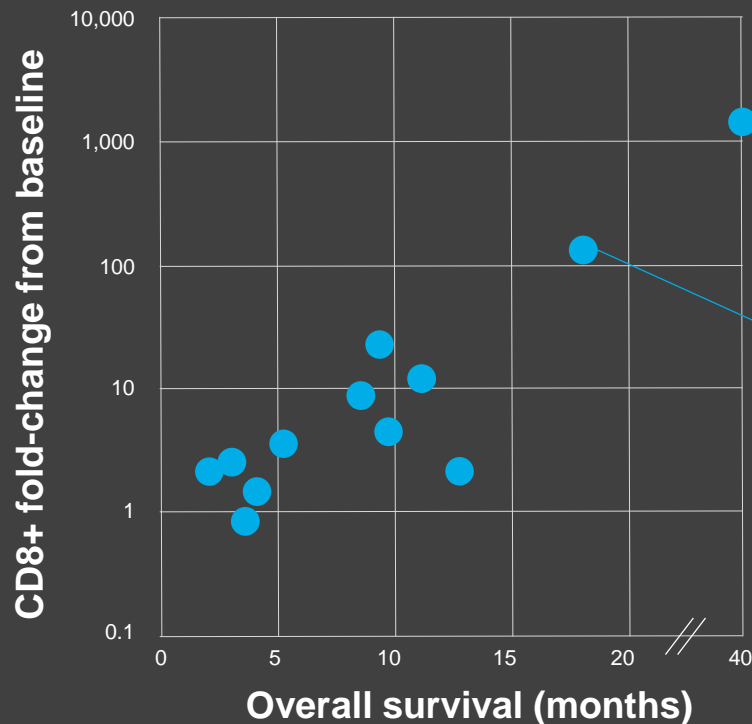
# ONCOS-102

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

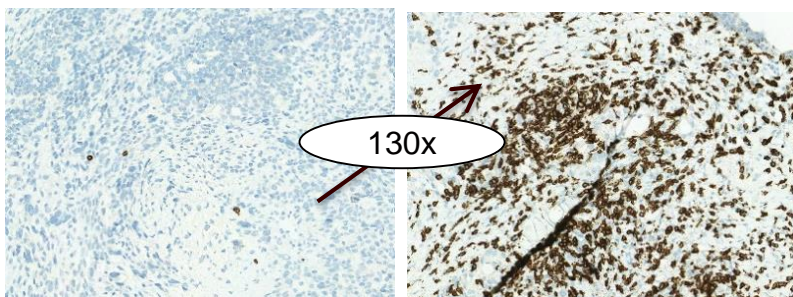
# ONCOS-102 MONOTHERAPY IN MESOTHELIOMA

turning cold tumors hot

## CD8+ T-cells in tumor

Tumor biopsy staining

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

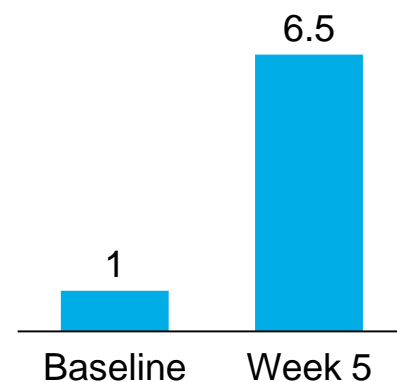


Baseline

Week 5

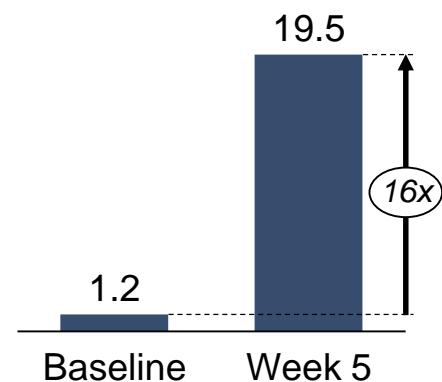
## CD4+ T-cells in tumor

Fold change

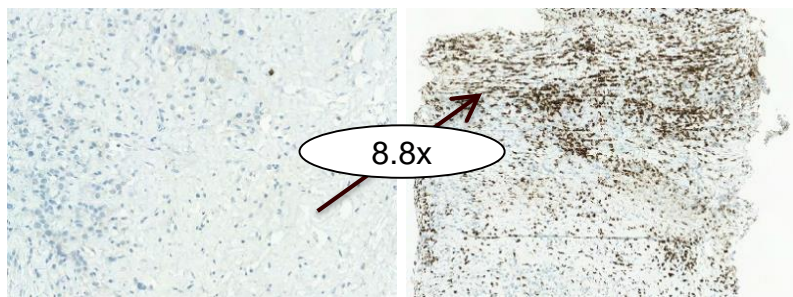


## PD-L1 positive tumor cells

% of total

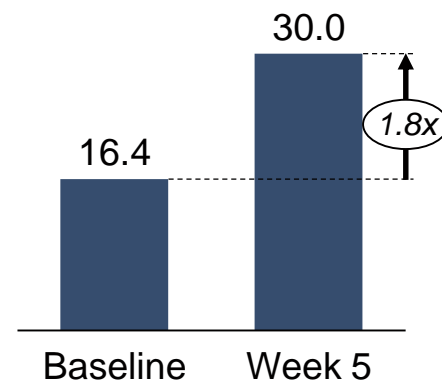
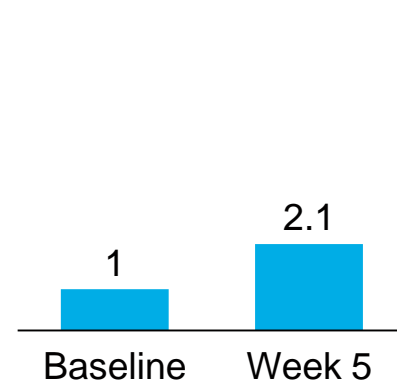


### *Mesothelioma – Phase I, patient 9*



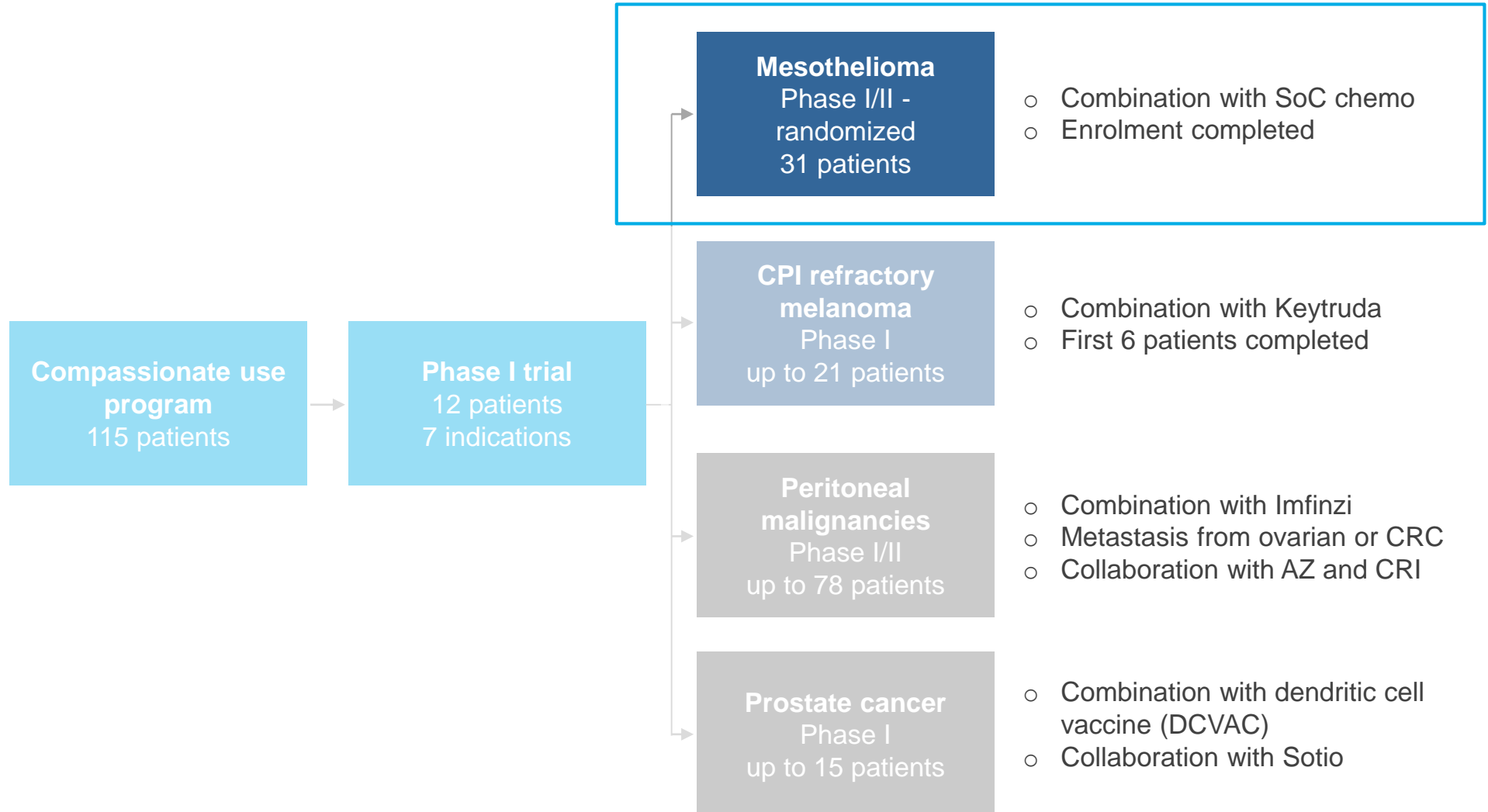
Baseline

Week 5



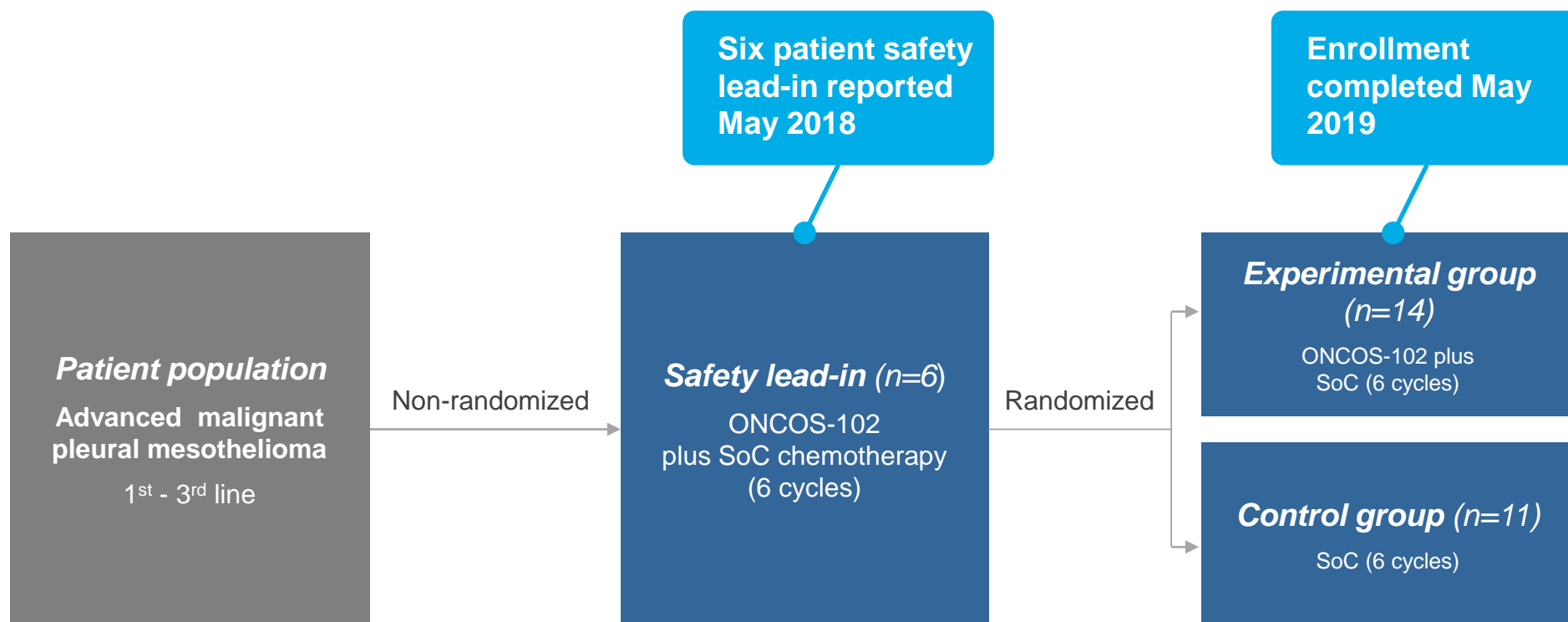


# ONGOING ONCOS-102 PHASE II IN MESOTHLIOMA



# ONCOS-102 in malignant pleural mesothelioma

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



# 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 in mesothelioma
- **Ongoing randomized trial** combining with chemo
- **Good safety profile**

## Orphan Drug Designation

- High unmet medical need; **orphan drug designation**
- Opportunity for priority regulatory review, and **quick route-to-market**
- 7-10 year **market exclusivity**

## Limited competition

- CPIs are **potential combinations**
- **No competing viruses**

# RICH NEAR-TERM NEWS FLOW

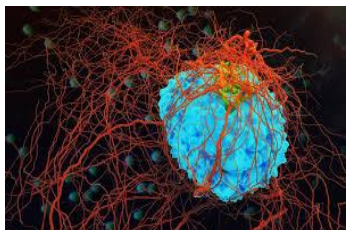
## ONCOS program pipeline overview

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</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

# NEXT GENERATION ONCOS VIRUSES: DOUBLE TRANSGENES AND DISTINCT MODE OF ACTIONS

## Target tumors

## Development status

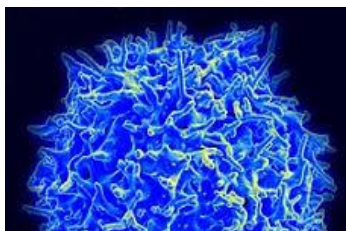


### ONCOS-210

*Inhibition of tumor growth and vascularization*

- Highly invasive or metabolic tumors

- *In vitro* testing completed
- First *in vivo* testing completed

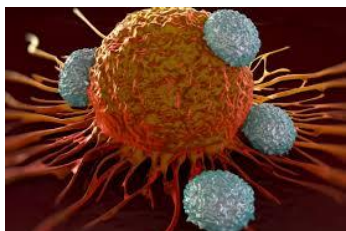


### ONCOS-211

*Counteract immune-suppressive tumor microenvironment*

- “Cold” immune suppressive tumors

- *In vitro* testing completed
- *In vivo* testing ongoing



### ONCOS-214

*Enhanced cell killing properties*

- Rapidly growing or large size tumors

- *In vitro* testing completed
- *In vivo* testing ongoing





# 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