

# ACTIVATING THE PATIENT'S IMMUNE SYSTEM TO FIGHT CANCER

2Q 2020

20 August 2020

targovax

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# 1

## Highlights and Financials

- 2. Collaborations
- 3. Mesothelioma
- 4. Ovarian and Colorectal

# TARGOVAX AT A GLANCE



## Immune activators

- Strong medical need for **immune activators** like oncolytic viruses to enhance efficacy of checkpoint inhibitors

## Leader in the field

- ONCOS-102 is one of the **most promising** oncolytic viruses with >200 patients treated
- Encouraging **clinical and immune data** enabling a path to market in mesothelioma

## Exciting pipeline

- Innovative uses of ONCOS backbone as **vector** for delivering transgenes and novel payloads
- Program to fight **mutRAS** cancers through novel oncolytic and vaccination concepts

## Rich News Flow

- Ongoing combination trials ensure several near-term **value inflection points**

## Robust Team

- Seasoned management team with a **track record of success**
- Listed on the Oslo Stock exchange with a market cap of approx. USD 55 million

# PIPELINE WITH RICH NEAR-TERM NEWS FLOW

Product candidate	Preclinical	Phase I	Phase II	Collaborator	Next expected event
ONCOS-102	<b>Mesothelioma</b> Combination w/ pemetrexed/cisplatin				<b>2H 2020</b> Updated survival data
	<b>Melanoma</b> Combination w/Keytruda				<b>2H 2020</b> Clinical and immune activation data
	<b>Ovarian and colorectal</b> Combination w/Imfinzi			 	<i>Update by collaborator</i>
	<b>Prostate</b> Combination w/DCvac				<i>Update by collaborator</i>
ONCOS-200 series	<b>Next Gen viruses</b>				Updates at conferences
Novel mutRAS concepts				 	

# HIGHLIGHTS OF THE QUARTER

## Data

- **Mesothelioma:** Encouraging data in trial combining ONCOS-102 and chemotherapy
- **Ovarian and colorectal cancers:** Interim Phase 1 data at ASCO
- **ONCOS-200 series:** Pre-clinical next generation ONCOS data at AACR

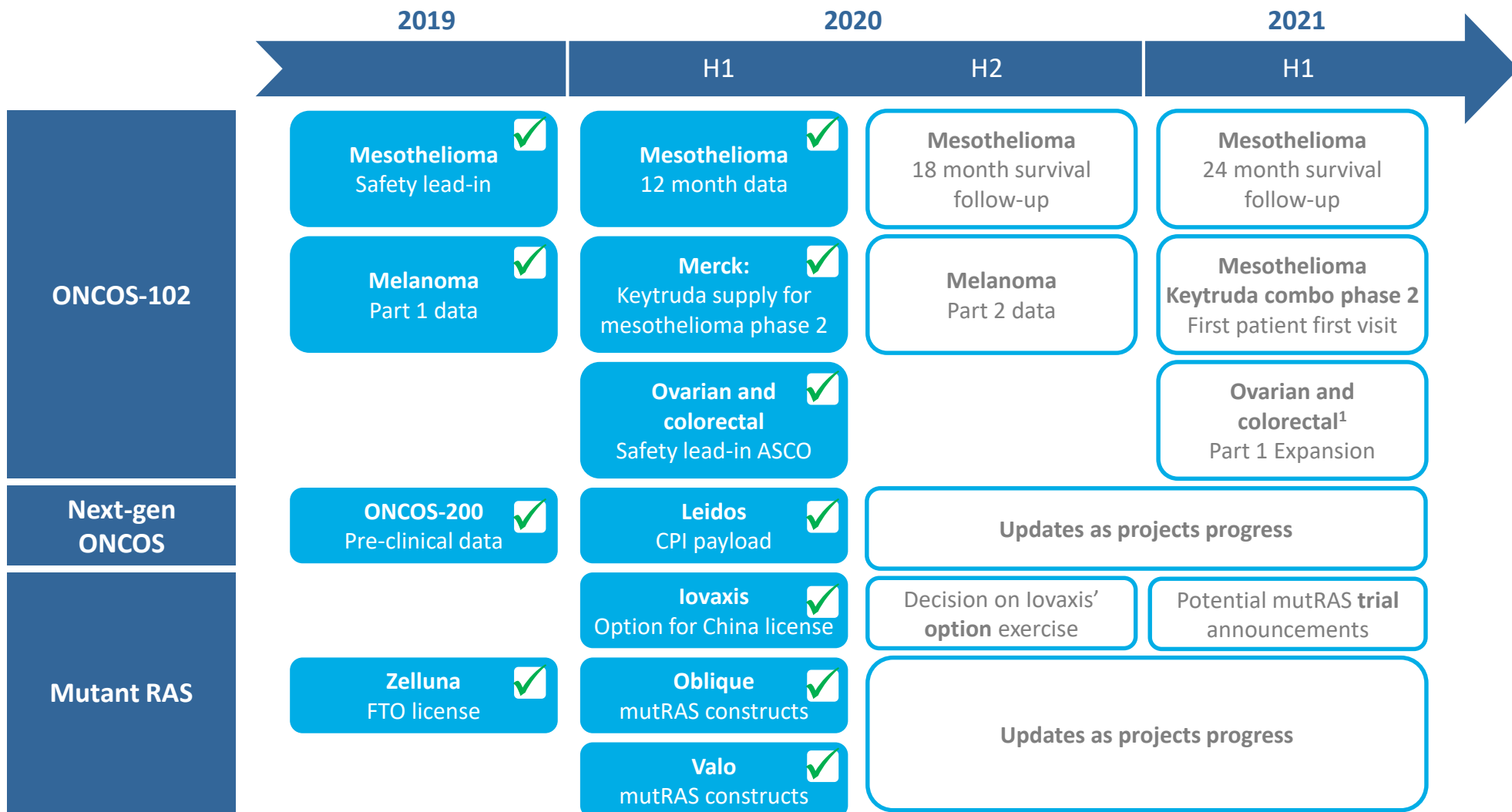
## Corporate

- Damian Marron elected **Chairman** of the Board
- Dr Victor Levitsky, MD, PhD appointed **CSO**

## New collaborations

- **Merck:** to test ONCOS-102 in combination with Keytruda in mesothelioma
- **Leidos:** to add CPI functionality to ONCOS
- **Valo Therapeutics:** to develop mutant RAS neoantigen coating of ONCOS viruses using Valo's PeptiCRAd technology
- **Oblique:** to target mut RAS cancers by combining platforms

# STRONG EXECUTION THE LAST YEAR WITH FURTHER VALUE INFLECTION POINTS UPCOMING





# SUFFICIENTLY FUNDED TO ADVANCE CLINICAL PROGRAM BEYOND VALUE INFLECTION POINTS

## The company

Cash end of 2Q

**101 / 11**

NOK million

USD million

Net cash flow - total 2Q

**-34 / 4**

NOK million

USD million

Market cap

**510 / 57**

NOK million

USD million

Analyst coverage

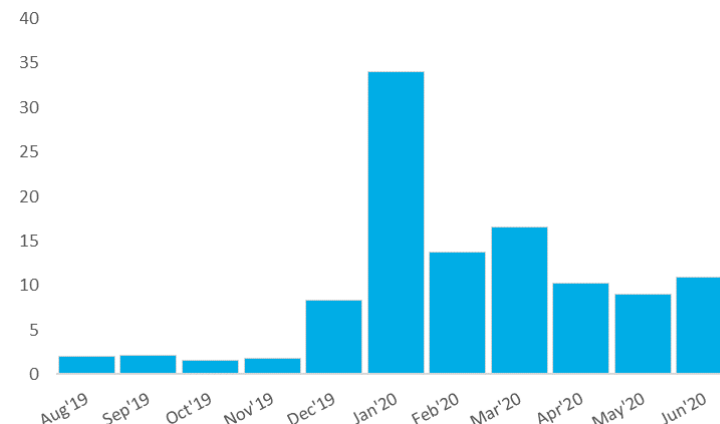
DNB, H.C. Wainwright, Arctic, ABG Sundal Collier,  
Edison

## Share liquidity

**135%** of shares traded in 6 month

Daily average share turnover per month

Shares / Million



6-month average daily value traded

**5.7 / 0.6**

NOK million

USD million



# CONTINUED COST CONTROL IN 2Q20

NOK m	1Q19	2Q19	3Q19	4Q19	1Q20	2Q20
<b>Total revenue</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>
External R&D expenses	-19	-22	-14	-25	-13	-14
Payroll and related expenses	-14	-18	-8	-11	-11	-11
Other operating expenses	-7	-5	-5	-5	-5	-5
<b>Total operating expenses</b>	<b>-40</b>	<b>-45</b>	<b>-27</b>	<b>-42</b>	<b>-30</b>	<b>-30</b>
Operating loss	-40	-45	-27	-39	-29	-30
Financial income	2	0	1	1	4	-2
Financial expenses	-0	-1	-0	-0	-0	-2
Net financial items	-1	-1	0	5	3	-4
Loss before income tax	-41	-46	-26	-35	-26	-33
Net change in cash	-46	30	-31	-34	65	-34
<b>Net cash EOP</b>	<b>105</b>	<b>135</b>	<b>104</b>	<b>70</b>	<b>135</b>	<b>101</b>

# 2

## Collaborations

- 3. Mesothelioma
- 4. Ovarian and Colorectal

# GROWING NEED FOR IMMUNE ACTIVATORS

*Checkpoint inhibitors are revolutionizing cancer therapy...*

*...but minority of patients respond...*

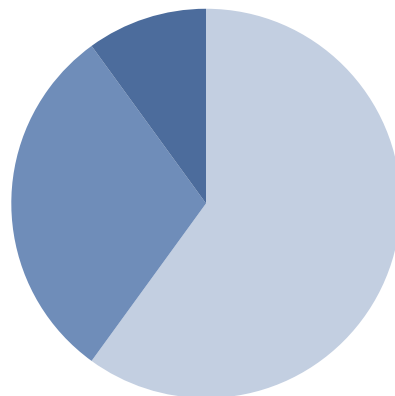
*...leading to a high need for immune activators to boost checkpoint response rates*

22 bn USD

Global CPI market<sup>1</sup>

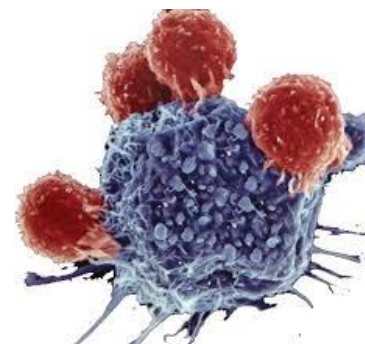
44 %

Patients eligible for CPI<sup>2</sup>:



10 - 40 %

Responders

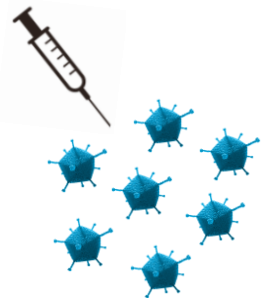


<sup>1</sup> Immune Checkpoint Inhibitors Markets Report, 2020 January, ResearchAndMarkets.com

<sup>2</sup> Estimation of the Percentage of US Patients With Cancer Who Are Eligible for and Respond to Checkpoint Inhibitor Immunotherapy Drugs, JAMA Netw Open. 2019 May; 2(5), Haslam A., Prasad V.

# ONCOS-102 MODE OF ACTION MAKES IT AN IDEAL COMBINATION PARTNER FOR CHECKPOINT INHIBITORS

## 1 Virus injection



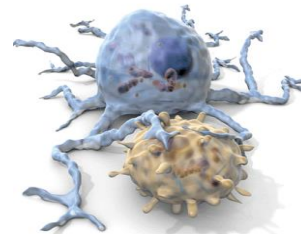
- Intra-tumoral or intra-peritoneal injection
- Tumor cell infection

## 2 Immune activation



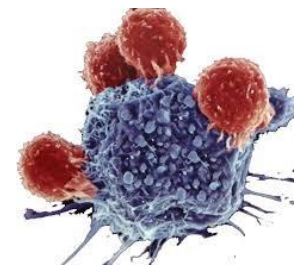
- Oncolysis of tumor cells
- Inflammatory response by TLR-9 and other pathways
- Tumor antigen release

## 3 T-cell priming








- Antigen processing stimulated by GM-CSF
- T-cell activation in lymph nodes

## 4 Anti-tumor immunity



- T-cell tumor infiltration
- Tumor cell killing
- Synergy with checkpoint inhibitors

# SEVERAL NEW PARTNERSHIPS INITIATED IN 1H 2020

	Type of partnership	Description
	Clinical trial collaboration	<b>Keytruda® supply</b> and scientific support for <b>mesothelioma phase 2 ONCOS-102 trial</b>
	Regional license option	<b>Option to license TG01/TG02 mutRAS vaccine for Greater China and Singapore</b>
	Pre-clinical R&D collaboration	Develop <b>novel ONCOS viruses</b> expressing Leidos' <b>Microtide™ checkpoint peptides</b>
	Pre-clinical R&D collaboration	Combine <b>ONCOS and mutRAS peptides</b> using Valo's <b>PeptiCRAD technology</b>
	Pre-clinical R&D collaboration	Develop <b>novel ONCOS viruses</b> encoding Oblique's <b>AbiProt™ mutRAS antibodies</b>

# LEIDOS COLLABORATION PROVIDES OPPORTUNITY TO BUILD CHECKPOINT FUNCTIONALITY INTO ONCOS



**CEO:** Roger Krone

**HQ:** Reston, Virginia, USA

**Founded:** 1969

**Business areas:** Technology and engineering company within defense, aviation, IT and biomedical research



- **EXplorations in GLObal Health**
- Subdivision of Leidos **dedicated to the application of immunotherapy** in cancer and infectious disease

## Area of collaboration

- Leidos ExGloH has developed a **unique class of novel checkpoint inhibitors – Microtide™**
- Build the Microtide **checkpoint functionality into ONCOS**, omitting need for combination treatment

## Next steps

- **Design novel ONCOS-Microtide viruses**
- Assess **technical performance** and **pre-clinical efficacy** of novel viruses

## Terms

- **Targovax to construct and validate novel ONCOS-Microtide constructs**
- **Leidos to test functionality of Microtide in ONCOS constructs**
- Joint cost and ownership model



# 3

## Mesothelioma

### 4. Ovarian and Colorectal



# HIGH NEED FOR NEW TREATMENT APPROACHES

## IN MALIGNANT PLEURAL MESOTHELIOMA



### Surgery

**Only 10% of patients suitable for resection**

Often diagnosed too late for surgery

Technically challenging

### Radiotherapy

**Rarely effective due to tumor shape**

Hard to focus radiation

Mainly palliative care



### Chemotherapy

**Standard of care (SoC) with limited efficacy**

Only approved option is pemetrexed/cisplatin

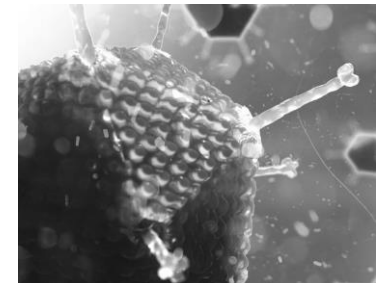
6 months mPFS and 12 months mOS in 1<sup>st</sup> line

### Immunotherapy

**Mixed signals from early CPI trials**

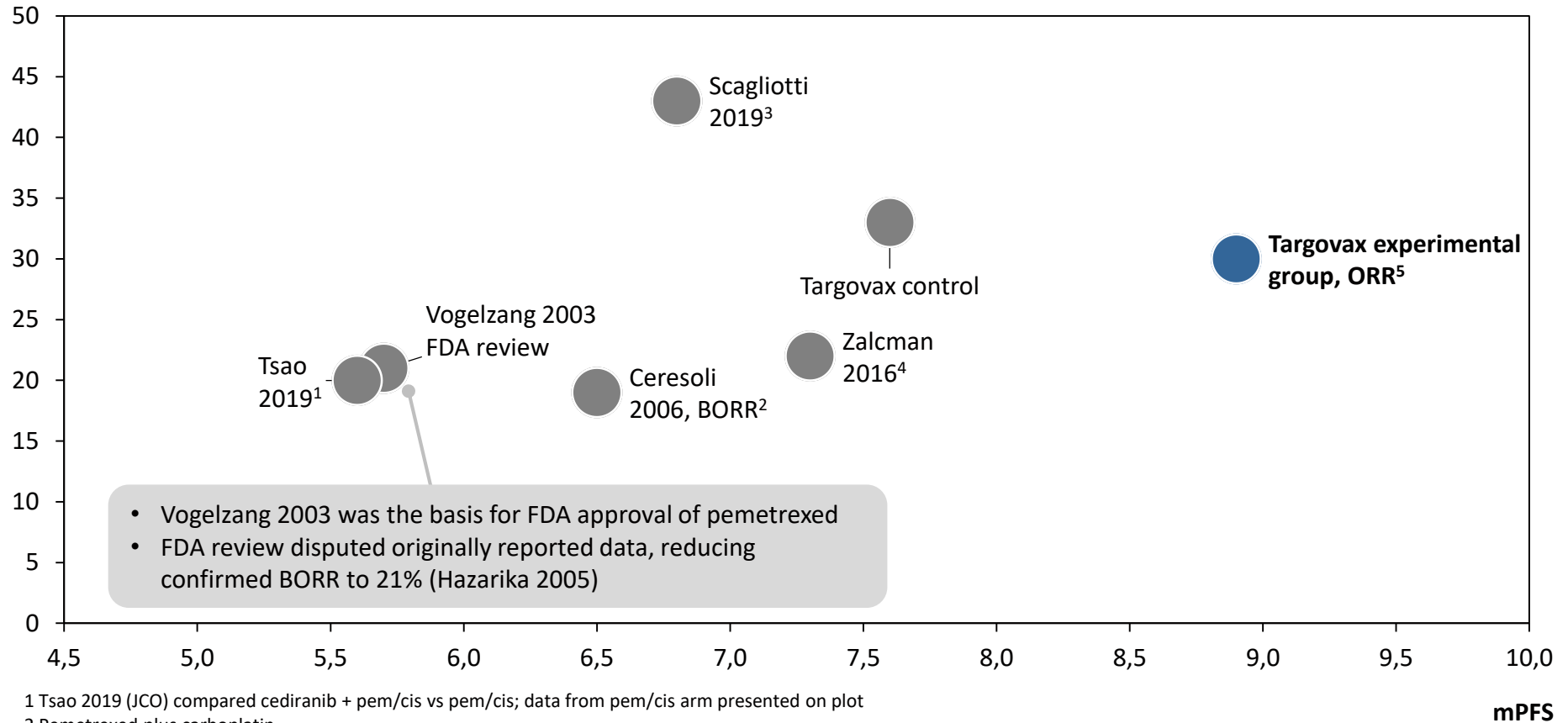
CPIs included in NCCN guidelines as 2<sup>nd</sup> line option

Possible frontline therapy with orphan drug designation



# FIRST LINE ORR AND PFS DATA COMPARE FAVORABLY TO HISTORICAL CONTROL

ORR / BORR



1 Tsao 2019 (JCO) compared cediranib + pem/cis vs pem/cis; data from pem/cis arm presented on plot

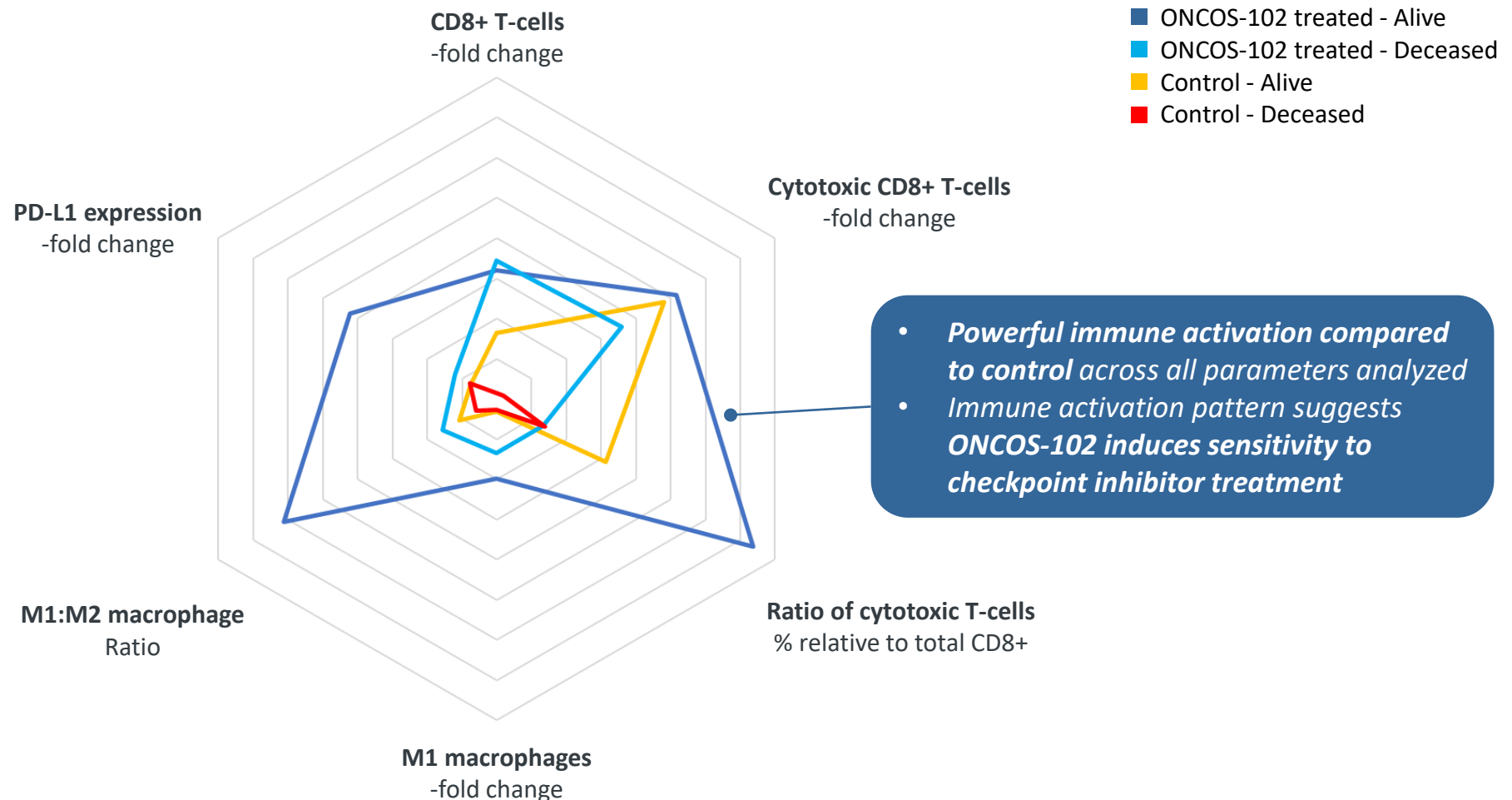
2 Pemetrexed plus carboplatin

3 Scagliotti 2019 (Lancet) compared nintedanib + pem/cis vs pem/cis; data from pem/cis arm presented on plot

4 Zalcman 2016 (Lancet) compared bevacizumab + pem/cis vs pem/cis; data from pem/cis arm presented on plot. Not specified if ORR or BORR.

5 mPFS may change: Experimental group 11 patients (3 censored)

# A BROAD AND POWERFUL IMMUNE ACTIVATION PATTERN CONFIRMS ONCOS-102 MODE OF ACTION



# NEXT TRIAL: TRIPLE COMBINATION OF ONCOS-102, KEYTRUDA AND CHEMO IN FIRST LINE MESOTHELIOMA

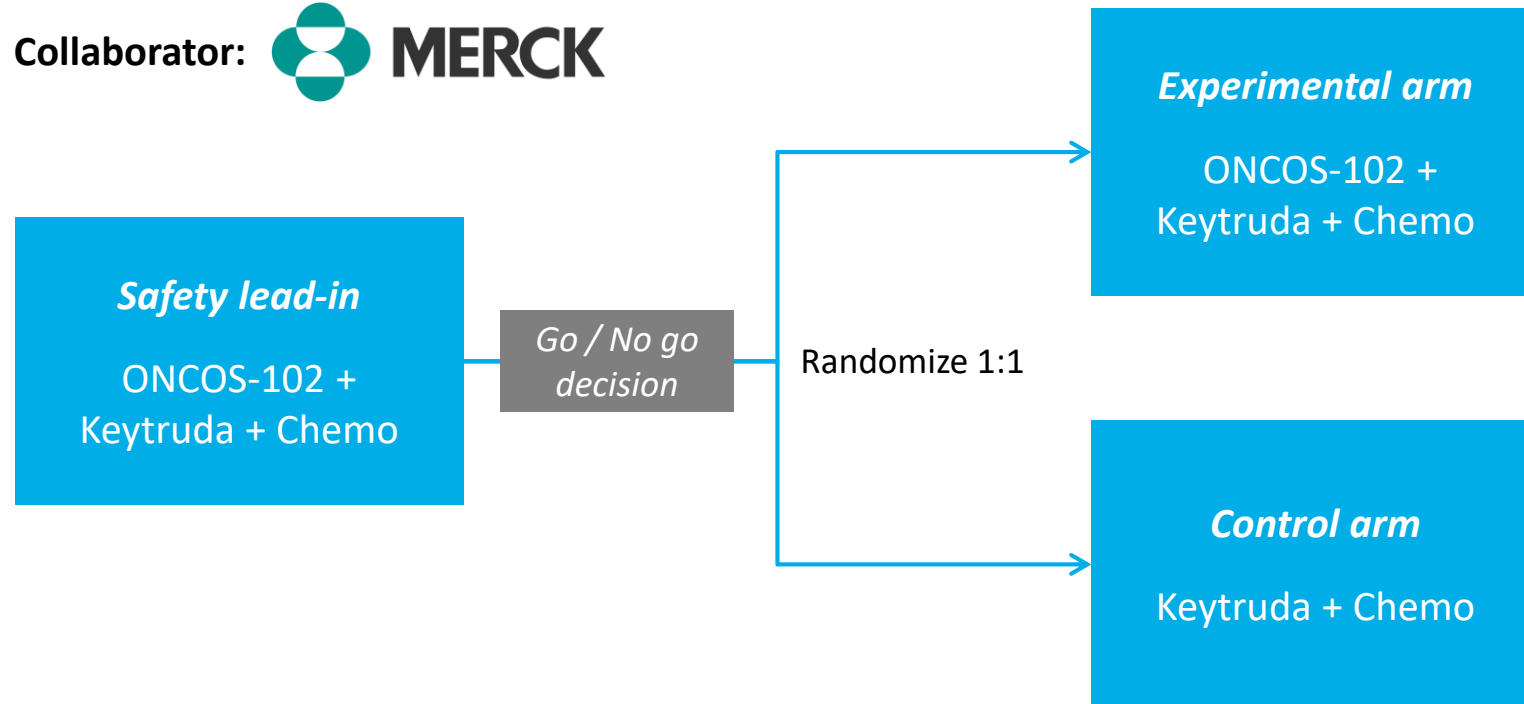
**Study population:** First line, unresectable, advanced and/or metastatic disease

**Primary endpoint:** median PFS

**Size:** Approx. 100 patients

**Geography:** the US and EU

**Collaborator:**  **MERCK**



# 4

## Ovarian and Colorectal

# STRONG COLLABORATION IN OVARIAN AND COLORECTAL CANCERS WITH PHASE I/II TRIAL COMBINING ONCOS-102 AND IMFINZI

## Collaboration



## Patient population

- Primary ovarian or colorectal cancer with peritoneal metastases
- Refractory to standard-of-care platinum chemotherapy
- Intraperitoneal admin of ONCOS-102

## Dose escalation

### Safety lead-in

**Ovarian and  
Colorectal cancer**

ONCOS-102  
(6 IP doses)  
+  
Imfinzi (12 cycles)

### Part I

**Ovarian**

18 patients

**Colorectal**

13 patients

## Expansion

### Part II

**Ovarian**

15 patients

**Colorectal**

14 patients

DCR in  
5 of 18  
Simon's  
two-stage design

DCR in  
1 of 13

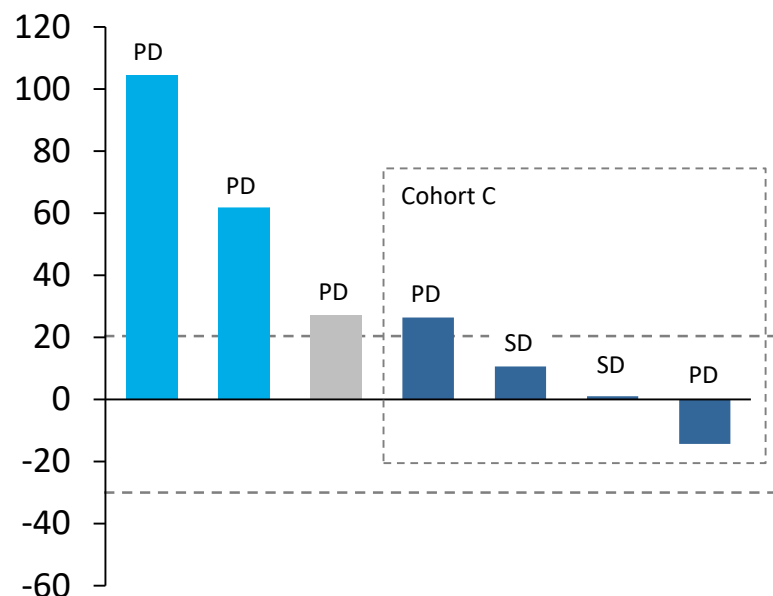
ASCO 2020: Dose Escalation part presented showing clinical activity as well as immune activation, and acceptable safety profile with no DLTs observed

# TUMOR CHANGE AND RESPONSES IN SAFETY LEAD-IN

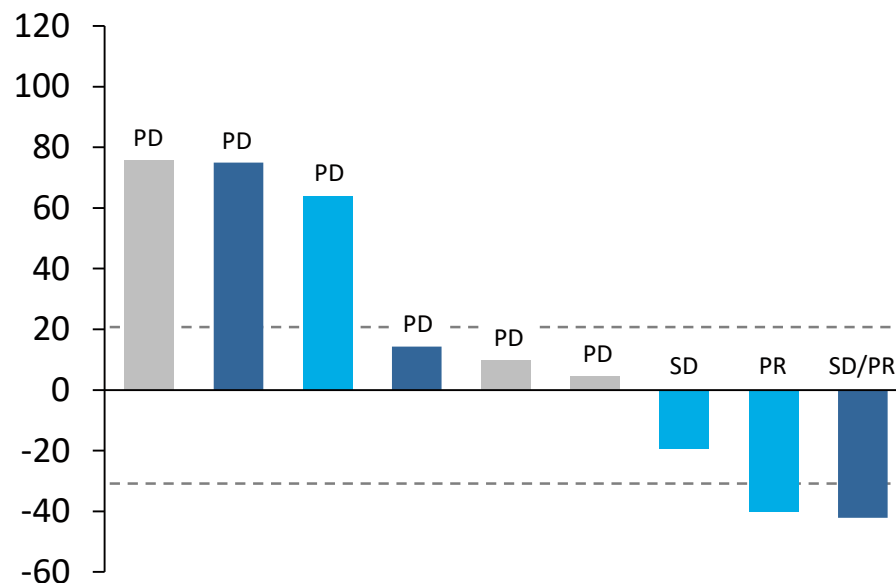
CPI MONOTHERAPY HAS SHOWN RESPONSES <10%<sup>1</sup>

## Tumor change<sup>2</sup> and best overall response (BORR) by RECIST 1.1

### Colorectal<sup>3</sup> (CRC)



### Ovarian (OC)



■ Cohort C  
■ Cohort B  
■ Cohort A

### Dosing

Cohort A – Low dose ONCOS-102 then Imfinzi

Cohort B – Low dose ONCOS-102 + Imfinzi

Cohort C – Standard dose ONCOS-102 + Imfinzi

### Disease control rate (best response)

CRC: 0/2      OC: 0/2

CRC: 0/2      OC: 2/3

CRC: 2/5      OC: 1/3

<sup>1</sup> Gonzales-Martin, Cancer 2019; W Hammond, Ther Adv Med Oncol 2016; Le et al, Keynote-016

<sup>2</sup> Tumor change is based on the patient's best overall response or first indication of progression (if PD was the best response). % change =  $\left[ \frac{\text{Sum of diameters at best response or first indication of PD} - \text{Sum of diameters at baseline}}{\text{Sum of diameters at baseline}} \right] \times 100$

<sup>3</sup> One patient with CRC in Cohort C is not in waterfall plot, as RECIST data are not available; clinical PD was documented.





# ACTIVATING THE IMMUNE SYSTEM TO FIGHT CANCER

## CLINICALLY PROVEN

One of the furthest developed  
unencumbered oncolytic  
viruses

Strong immune activation data  
associated with encouraging  
clinical data

## STRONG BACKING

Platform endorsement  
through pharma and biotech  
collaborations

Seasoned team with both  
experience and  
entrepreneurial drive

## VALUE TRIGGERS

Ongoing combination trials  
ensuring rich news flow of  
clinical data

Pipeline of innovative pre-  
clinical ONCOS viruses