ACTIVATING THE IMMUNE SYSTEM TO FIGHT CANCER

ONCOS-102 Trial updates

December 2, 2020

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Introduction

2. Melanoma
3. Mesothelioma
4. Q&A

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MEDICAL NEED FOR IMMUNE ACTIVATORS

CPIs are revolutionizing cancer therapy…

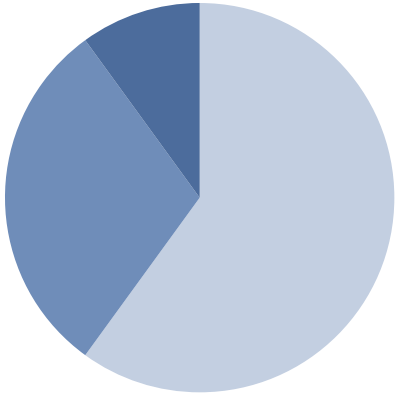
$20+ bn

Global CPI market[1]

44%

Patients eligible for CPI[2]:

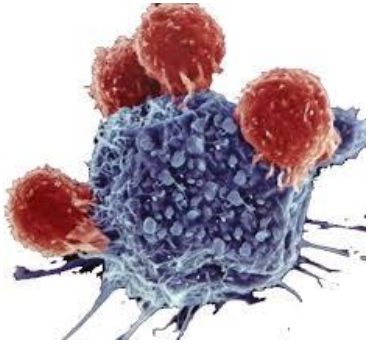
…but only a minority of patients respond…



10 - 40%

Responders

…leading to a high medical need for immune activators



1 Immune Checkpoint Inhibitors Markets Report, 2020 January, ResearchAndMarkets.com

2 Estimation of the Percentage of U.S. 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.

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PIPELINE WITH RICH NEAR-TERM NEWS FLOW

Product candidate	Preclinical	Phase 1	Phase 2	Collaborator	Next expected event
ONCOS-102	**Mesothelioma** Combination w/ pemetrexed/cisplatin			MERCK	**1H 2021** 24-month survival
	Melanoma Combination w/Keytruda				**DATA TODAY**
	Colorectal Combination w/Imfinzi			AstraZeneca CANCER RESEARCH INSTITUTE	*Update by collaborator*
	Prostate Combination w/DCvac			sotio	*Update by collaborator*
ONCOS-200 series	**Next Gen viruses**			leidos	*Updates at conferences*
Novel mutRAS concepts				VALO THERAPEUTICS OBLIQUE THERAPEUTICS	

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Melanoma

3. Mesothelioma
4. Q&A

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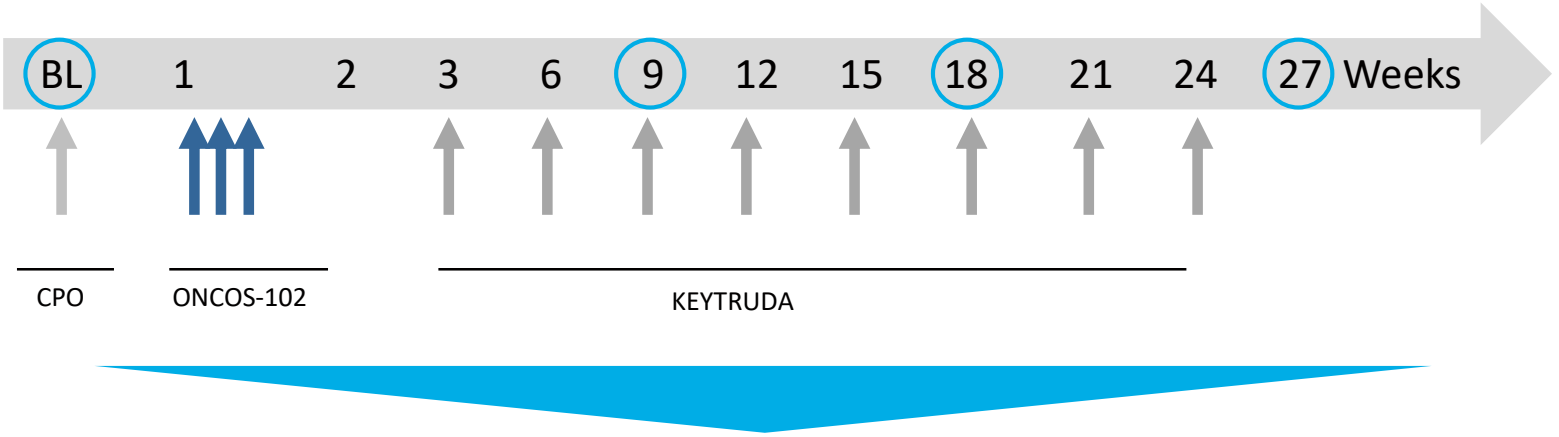
ONCOS-102 IN ANTI-PD1 REFRACTORY MELANOMA

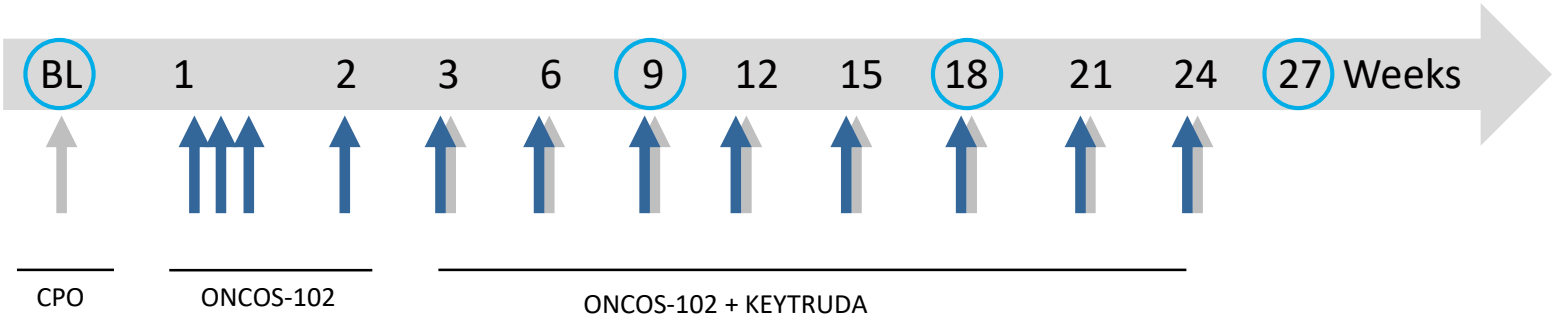
Patient population	• Advanced, unresectable **melanoma** • Disease **progression** despite prior treatment with anti-PD1 • 20 patients, 11 stage III and 9 stage IV • Poor prognosis, with **few treatment alternatives**
Clinical centers	• Lead: **Memorial Sloan Kettering Cancer Center** (New York City) • University of Maryland Comprehensive Cancer Center (Baltimore) • Fox Chase Cancer Center (Philadelphia) • Oslo University Hospital (Oslo) • ClinicalTrials.gov Identifier: NCT03003676
Treatment regime	• Part 1: 3 ONCOS-102 injections followed by 5 months of Keytruda • Part 2: 12 ONCOS-102 injections; priming and concomitant use

MELANOMA TRIAL DESIGN

Part 1:
3x ONCOS-102
8x Keytruda



Part 2:
4x ONCOS-102
8x ONCOS-102 + Keytruda



○ *Imaging*

CPO: Cyclophosphamide

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PATIENT DEMOGRAPHICS – MORE ADVANCED DISEASE IN PART 2

Parameters	Part 1 (n=8)	Part 2 (n=12)	Total (N=20)
Median time from diagnosis to start ONCOS-102 (years)	6.9	2.9	4.5
Average number of checkpoint inhibitor treatments prior to study	1.8	2.3	2.2
Average number of lesions at baseline	4.5	9.1	7.3
Average tumor burden targeted lesions at baseline (mm)	50.3	66.1	58.2
Stage of patients - III - IV	 6 2	 5 7	 11 9

One patient was taken out of in Part 1 population due to violation of inclusion criteria
Preliminary data

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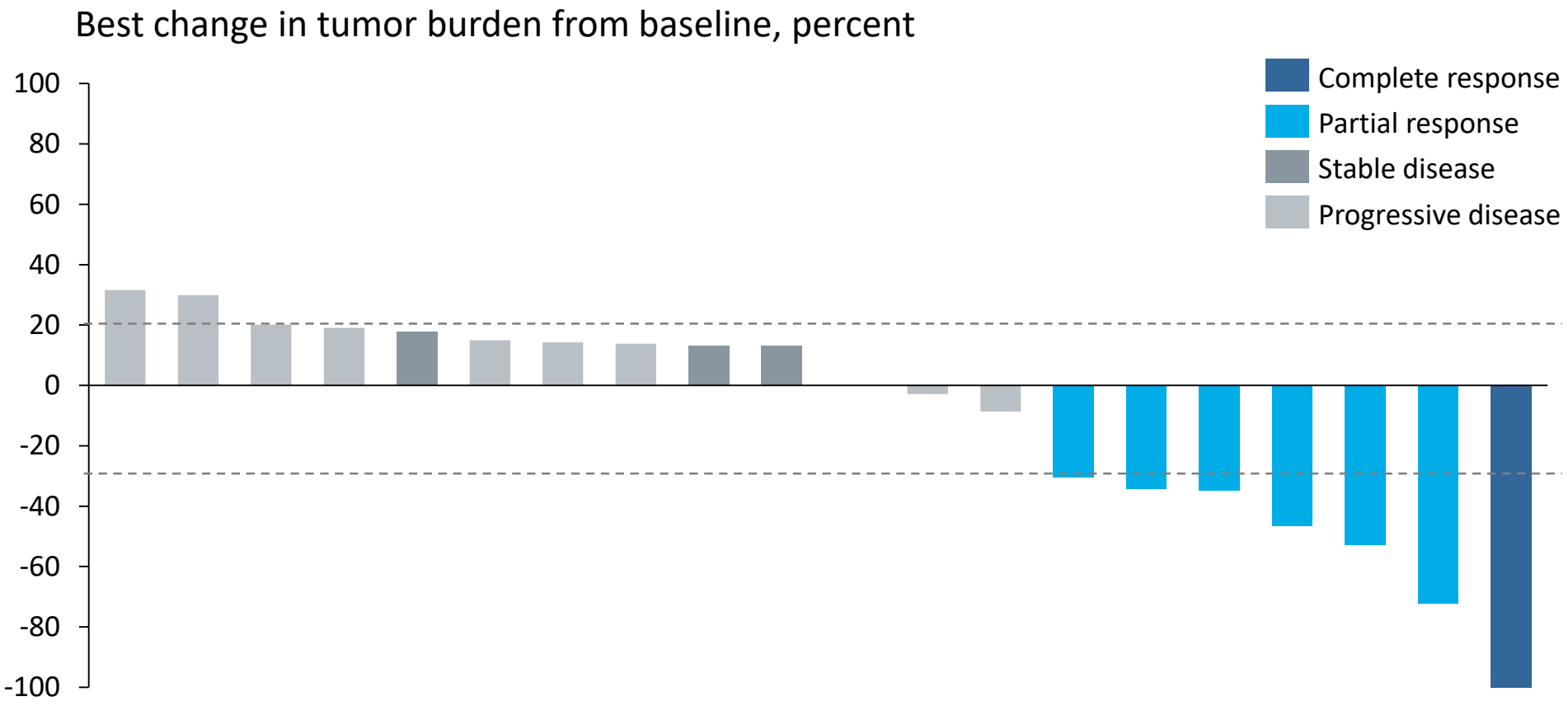
7 OF 20 PATIENTS WITH PARTIAL OR COMPLETE RESPONSE RESULTS IN ORR OF 35%



Response defined as tumor reduction of at least 30% in at least one CT scan, according to RECIST 1.1
Preliminary data

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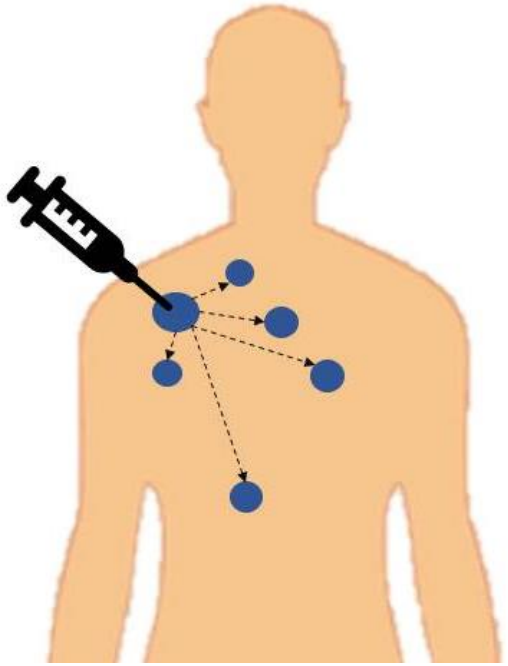
MULTIPLE EXAMPLES OF SYSTEMIC (ABSCOPAL) EFFECT

TWO PATIENTS WHERE A NON-INJECTED LESION COMPLETELY DISAPPEARED



- Findings are based on **early data** assessment, systemic effects will be further assessed
- Used threshold of **tumor reduction of 30%**[1] or more in a lesion
- Observed in patients in both Part 1 and 2
- **Complete remission** of non-injected lesion seen in two patients

1 Similar to RECIST 1.1 criteria for response

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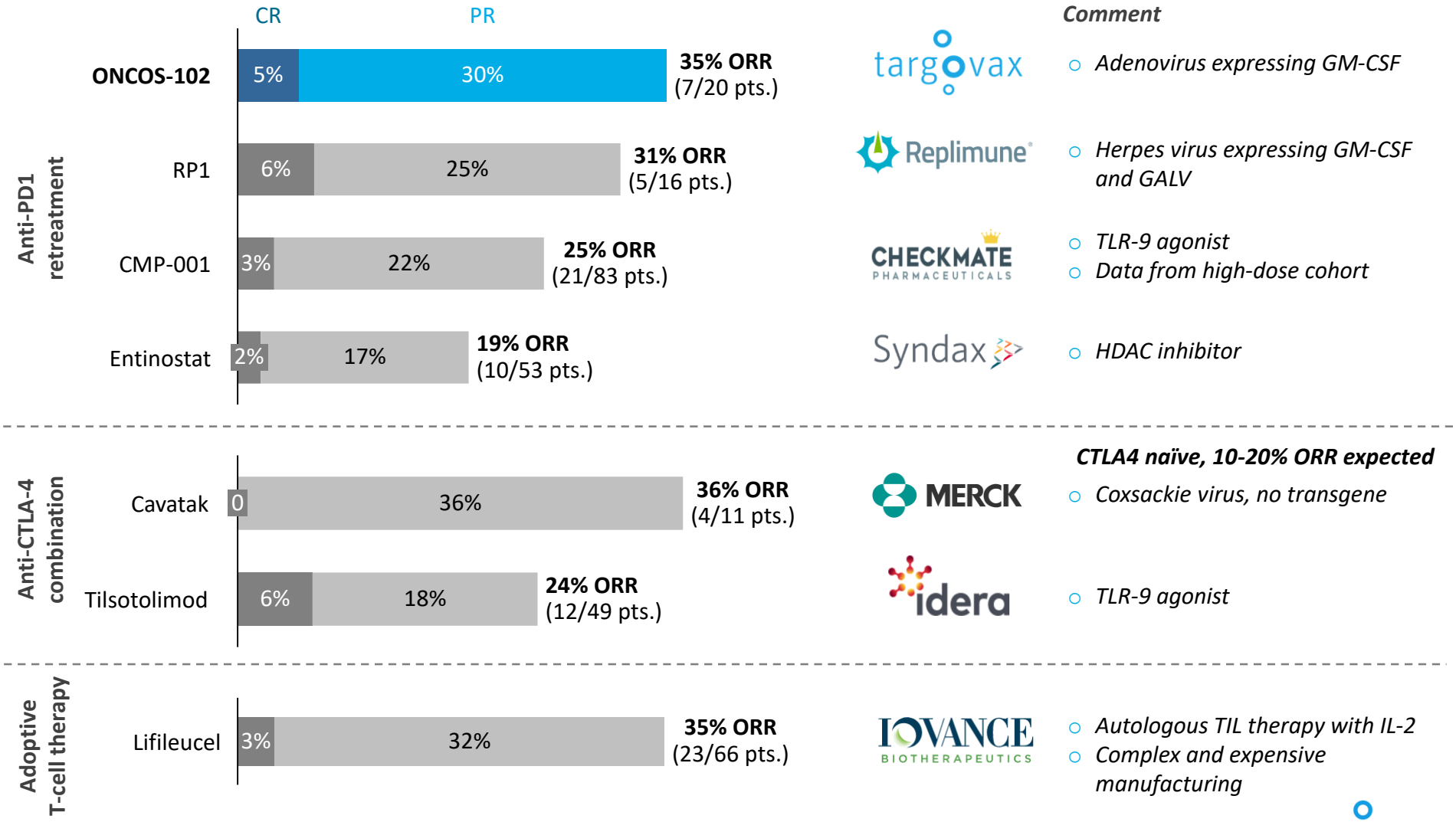
ONCOS-102 EFFICACY IS COMPETITIVE TO LEADING DRUG CANDIDATES IN ANTI-PD1 REFRACTORY MELANOMA



Targovax market analysis, November 2020.

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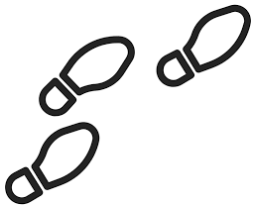
EXCELLENT CLINICAL DATA SUPPORT CONTINUED DEVELOPMENT IN ANTI-PD1 REFRACTORY MELANOMA

Excellent safety profile confirmed

- ONCOS-102 and Keytruda **combination is well-tolerated**

Excellent clinical outcome

- **35% ORR:** Tumor responses were observed in 7 out of 20 evaluable patients
- **Systemic effect:** Tumor regression in non-injected lesions observed in multiple patients, including two lesions that regressed completely
- Confirmed ONCOS-102 ability to **reactivate CPI refractory tumors**



Next steps

- Planning for a **confirmatory melanoma trial** in combination with anti-PD1 checkpoint inhibitor
- Analyze more **immunological data**

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Mesothelioma

4. Q&A

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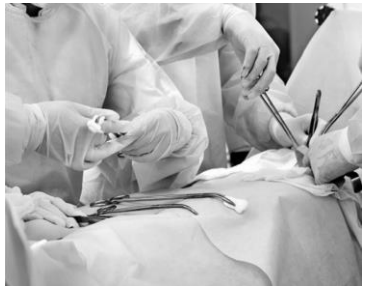
HIGH NEED FOR NEW TREATMENT APPROACHES

IN MALIGNANT PLEURAL MESOTHELIOMA



Surgery

Only 10% of patients suitable for resection

Often diagnosed too late for surgery

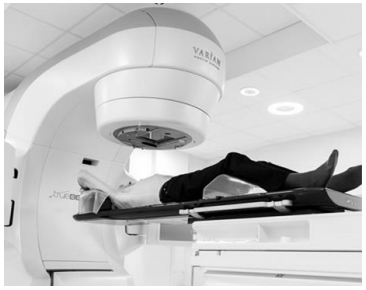
Technically challenging

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

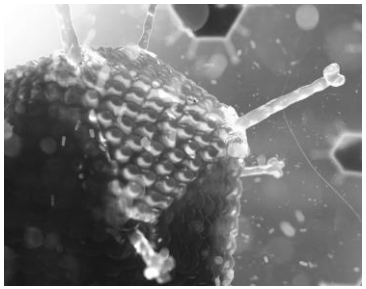
6 months mPFS and 12 months mOS in 1st line

Immunotherapy

Ipi/nivo approved in 1st line disease (US only)

CPIs included in NCCN guidelines as 2nd line option

CPI + SoC trials ongoing



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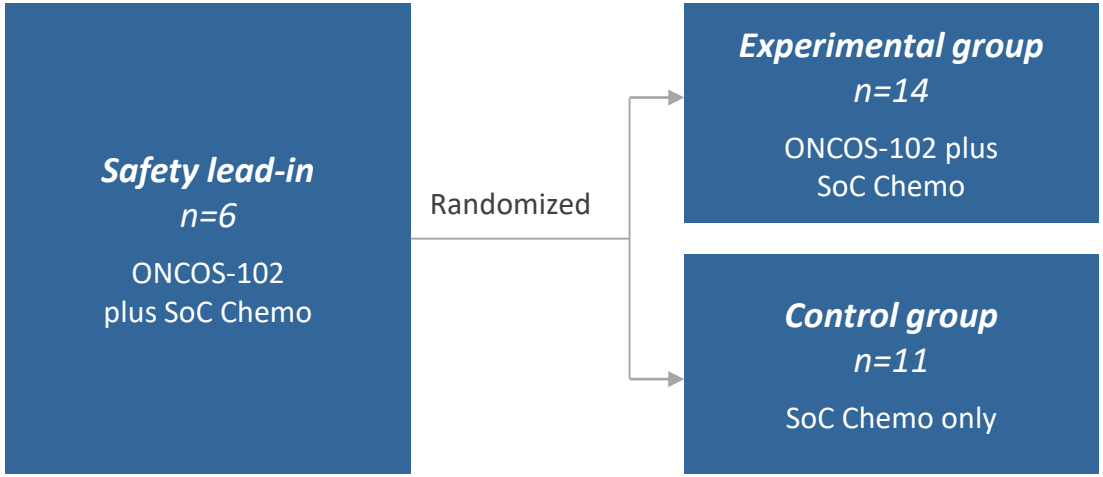
ADVANCED MALIGNANT PLEURAL MESOTHELIOMA

PHASE I/II TRIAL IN COMBINATION WITH CHEMO

Trial design

- First and second (or later) line
- Standard of Care (SoC) Chemo: Pemetrexed and cisplatin, 6 cycles
- ONCOS-102: 6 intra-tumoral injections



PROMISING SURVIVAL IN FIRST LINE PATIENTS

ITT: N = 31 (20+11) PP: N = 30 (19+11)	**ONCOS-102 + SoC** Safety lead-in n = 6	**ONCOS-102 + SoC** Randomized n = 14	**SoC only control** Randomized n = 11	**Comments**
First line patients (number)	3	8	6	*No previous chemotherapy*
Median Progression Free Survival (mPFS)	8.4 months	9.8 months	7.6 months	
18-month survival rate (percentage)	33%	63%	33%	
Median Overall Survival (mOS)	11.0 months	≥ 18.2 months	≤ 14.2 months	*mOS not yet reached in the randomized experimental group*
Second (or later) line patients (number)	3	6	5	*Received previous chemotherapy*
Median Progression Free Survival (mPFS)	1.9 months	7.4 months	8.5 months	
Median Overall Survival (mOS)	5.0 months	14.4 months	≥ 19.5 months	

ITT: Intention to treat
PP: Per protocol

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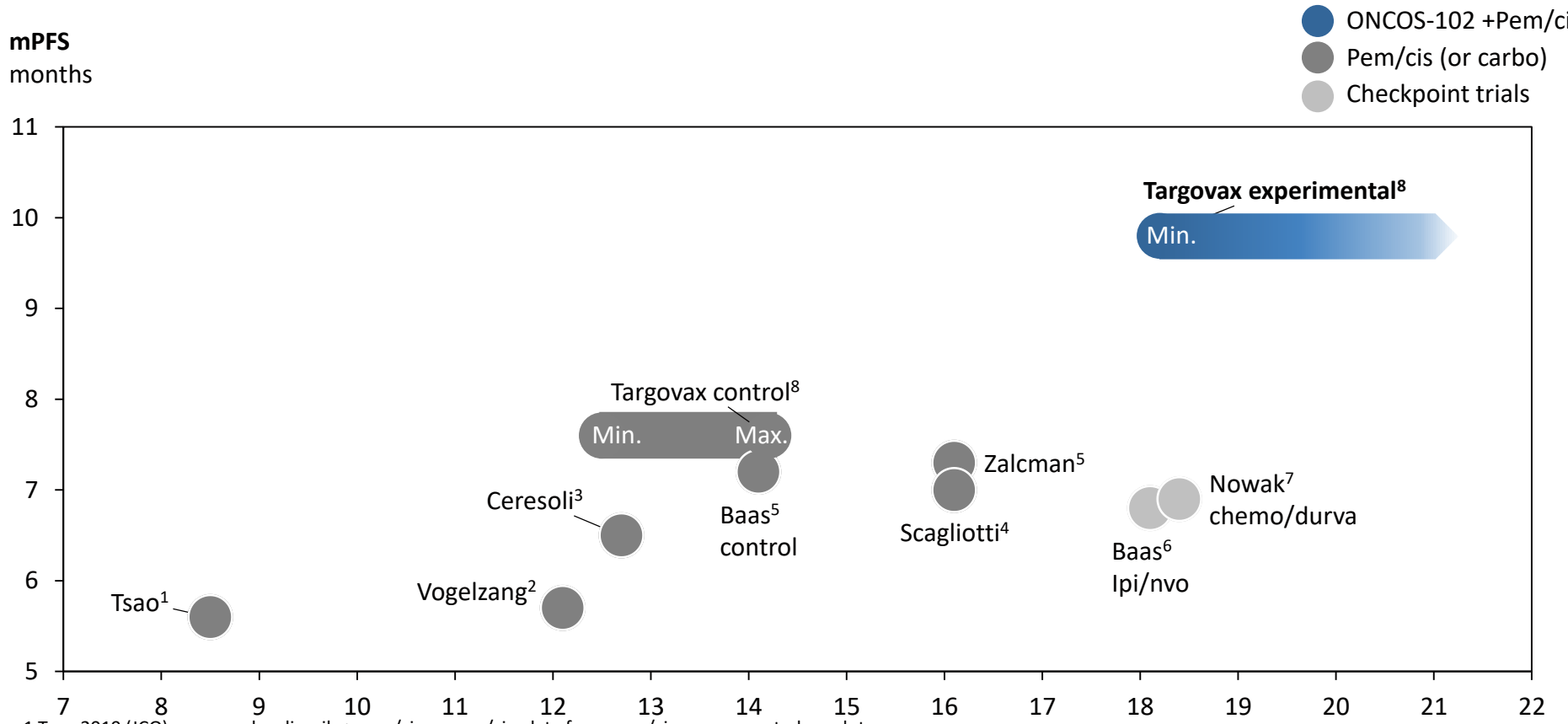
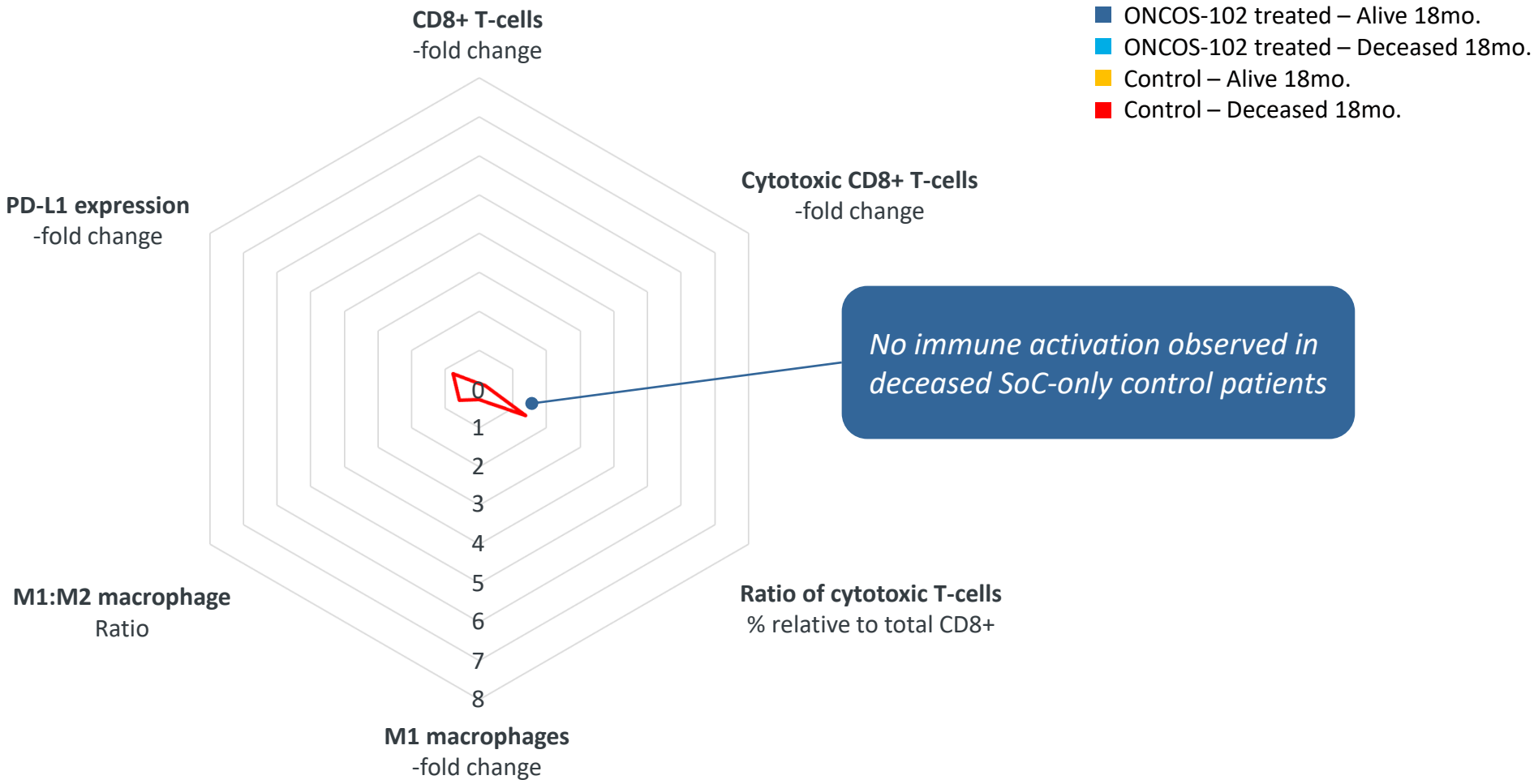
FIRST LINE DATA ARE MATURING AND ALREADY COMPETITIVE - MOS WILL BE 18.2 MONTHS OR MORE



1 Tsao 2019 (JCO) compared cediranib + pem/cis vs pem/cis; data from pem/cis arm presented on plot
2 Vogelzang 2003 was the basis for FDA approval of pemetrexed.
3 Ceresoli 2006, Pemetrexed plus carboplatin
4 Scagliotti 2019 (Lancet) compared nintedanib + pem/cis vs pem/cis; data from pem/cis arm presented on plot
5 Zalcman 2016 (Lancet) compared bevacizumab + pem/cis vs pem/cis; data from pem/cis arm presented on plot.
6 Baas 2020 CheckMate 743. Nivolumab + ipilimumab for two years vs pem/cis (or carboplatin). Ipi/nivo was approved in first line by FDA on October 2, 2020.
7 Nowak 2020 (Lancet Oncology) Pem / cis (6 cycles) + durvalumab (12 months)
8 1L randomized patients mOS will change: Experimental group, 8 patients (5 censored). Control group, 6 patients (2 censored)

mOS: median Overall Survival. mPFS: median Progression Free Survival

LEVEL OF IMMUNE ACTIVATION PREDICTIVE OF CLINICAL OUTCOME



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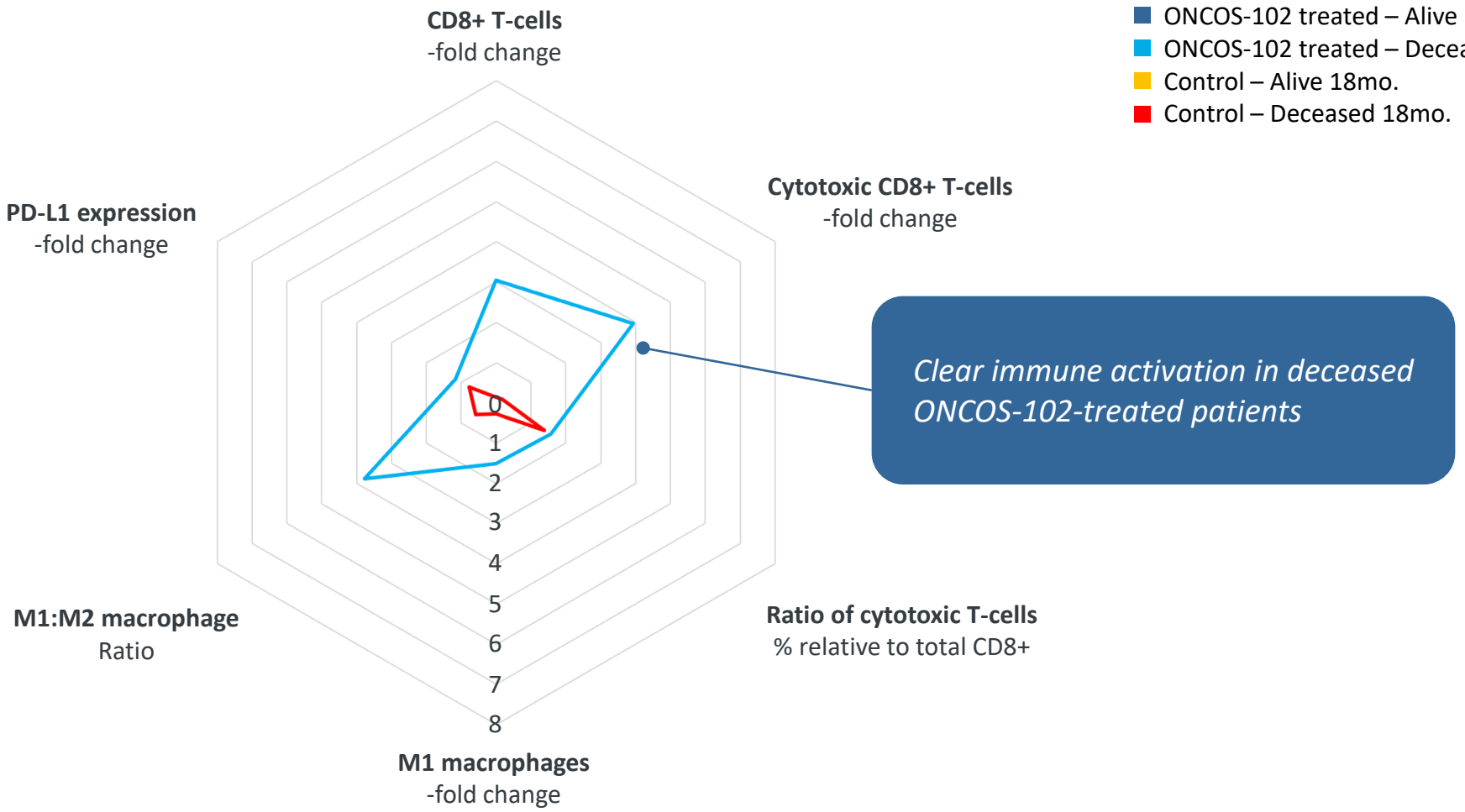

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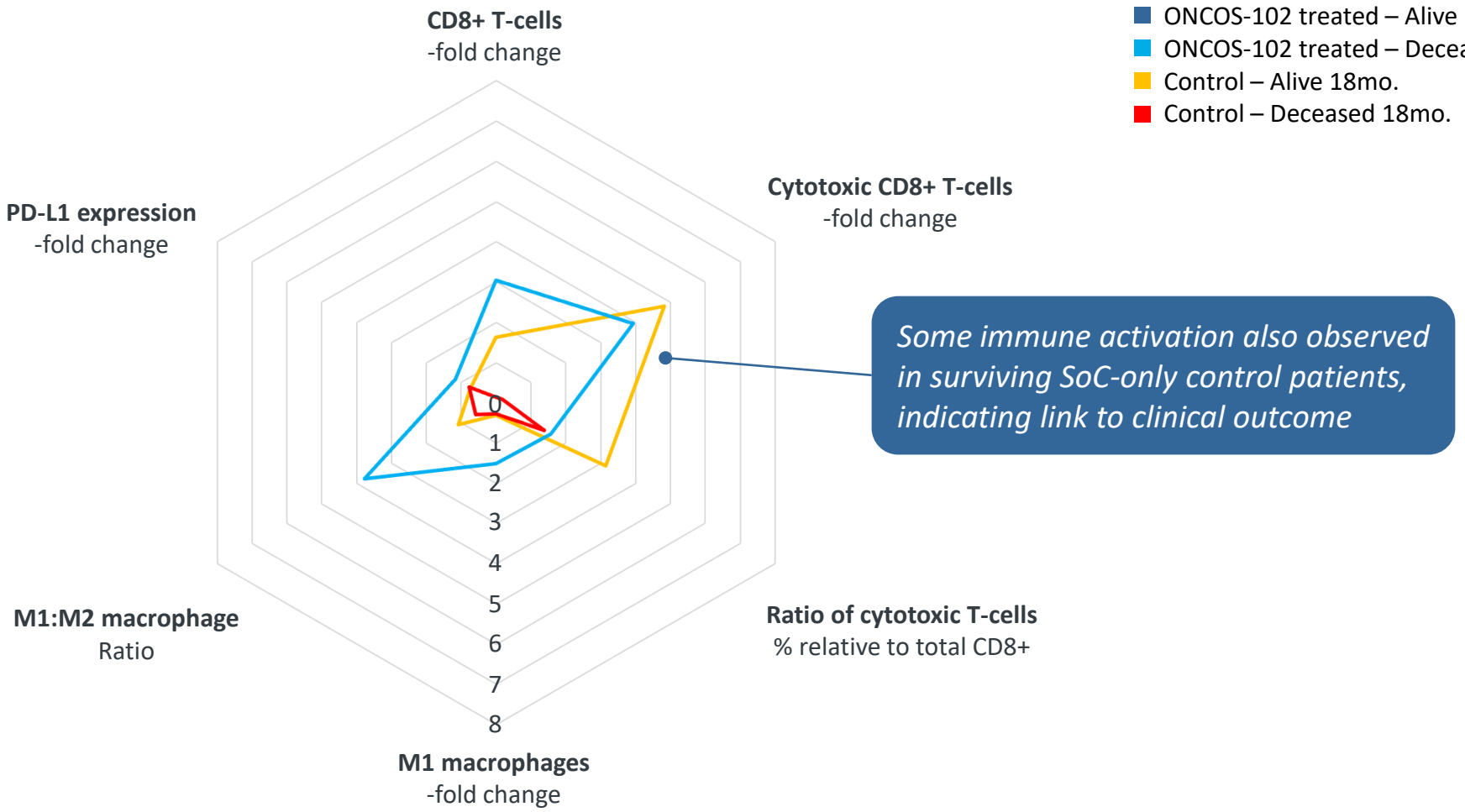

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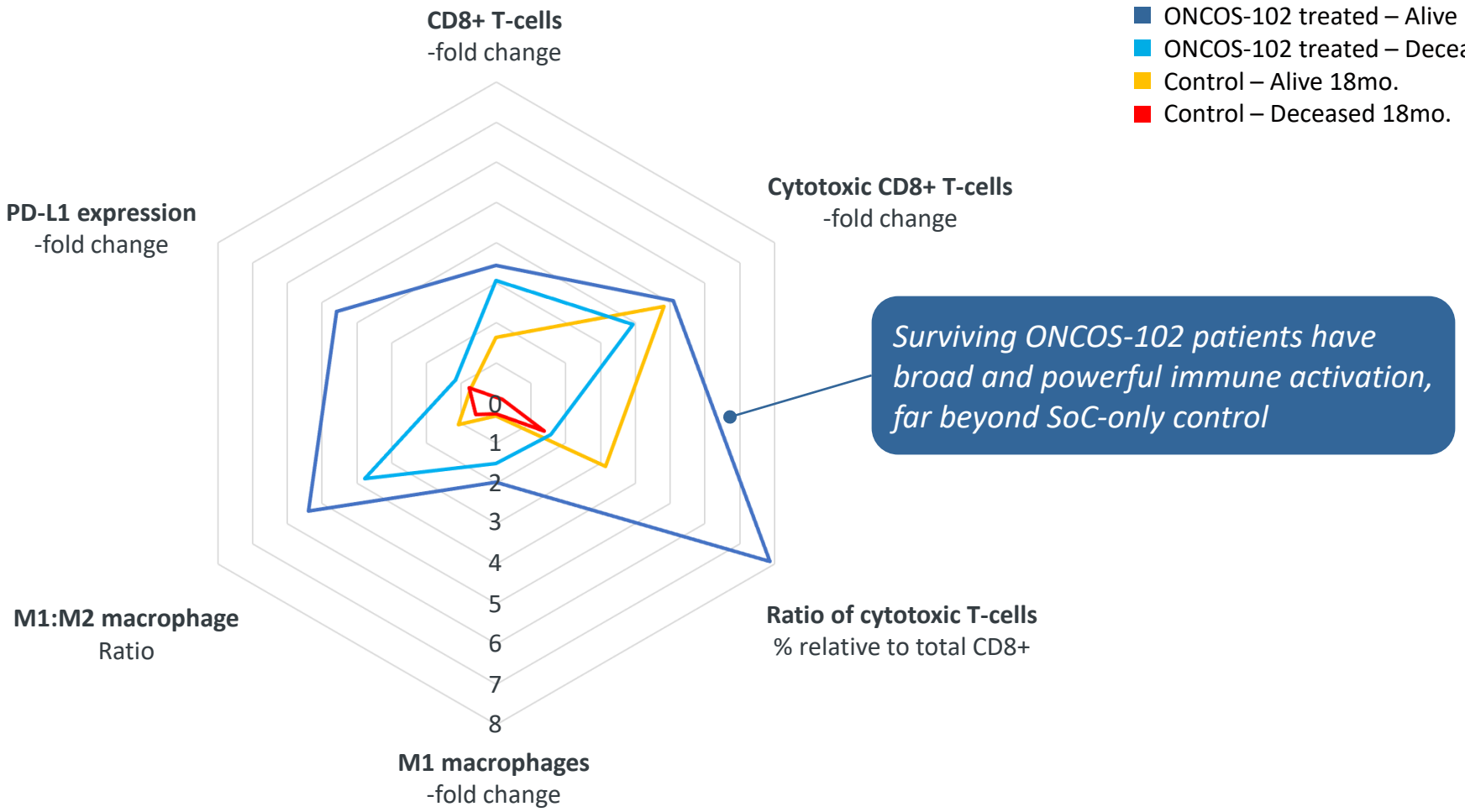
LEVEL OF IMMUNE ACTIVATION PREDICTIVE OF CLINICAL OUTCOME



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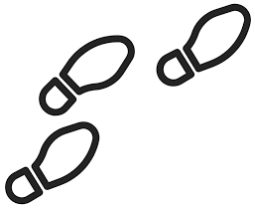
CLINICAL AND IMMUNE DATA SUPPORT TRIPLE COMBINATION WITH CHECKPOINT INHIBITOR

Excellent safety profile confirmed

- ONCOS-102 and SoC chemotherapy **combination is well-tolerated**

Clear clinical activity

- **mOS not yet reached** but at least 18.2 months
- **mPFS of 9.8 months** in first line randomized ONCOS-102 treated patients
- Broad and powerful **immune activation** associated with **clinical benefit**



Next steps

- **First line** identified **as target population** for further development
- Strong rationale for **combination with anti-PD1/L1 checkpoint inhibitor and SoC chemotherapy -** Collaboration established with **Merck**

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Q&A

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