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ONCOS-102 development program

4. Immune activation
5. Preclinical pipeline update
6. 4Q update
7. Closing remarks

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EARLY-STAGE DEVELOPMENT SUCCESSFULLY COMPLETED – ENTERING LATE-STAGE DEVELOPMENT

Early-stage development

- ✓ Clinical efficacy
- ✓ Immune activation
- ✓ Well tolerated

Late-stage development

PD1 refractory melanoma

Expansion opportunities

- Mesothelioma
- Colorectal cancer
- Other indications
- Other IO combinations
- Platform development

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CHECKPOINT INHIBITORS IN THE CLINIC

Huge impact since the launch of Yervoy in 2011

- aPD1 standard of care in several solid tumor indications
- Varying response rates
  - Melanoma ca. 40% ORR
  - Lung ca. 30% ORR
  - Head & Neck ca. 20% ORR

CPI refractory cancer is a significant medical need

- Primary refractory disease: change/add CPI 10-20% ORR
- Secondary refractory disease: repeat CPI <10% ORR

Most patients don't respond to CPIs even after adding/changing CPI

- Growing trend – improve response to checkpoint inhibitors by adding immune activating agents (e.g., ONCOS-102)

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PD1 REFRACTORY MELANOMA MARKET OPPORTUNITY

Incidence	~100.000 new stage III/IV cases of malignant melanoma per year in the major markets
Unresectable	~50% recur and become unresectable Total **~50.000 patients per year**
PD1 resistance	~50% of cases become PD resistant Total **~25.000 patients per year**
Addressable	**Estimated 10.000 - 20.000 patients per year** addressable with intra-tumoral therapies
Other PD1 resistance	>100.000 patients per year lung cancer >50.000 patients per year head and neck

SOURCE: GlobalData, Targovax analysis

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ACCELERATED APPROVAL IN ANTI-PD1 REFRACTORY MELANOMA IS OUR PRIORITY

Rationale

- Highly competitive clinical data
- No standard of care
- Fast route to market

Preliminary trial design – registration directed

- Single arm, < 200 patients
- Refractory status
- Primary endpoint: ORR
- Focus: systemic effect and durability
- Dosing: similar to part 2

Next steps

- Conclude trial design discussions with KOLs in US, EU and Australia
- Consult with FDA & other regulatory authorities to secure path forward
- Explore opportunities for collaboration partners
- Target first patient 1H 2022

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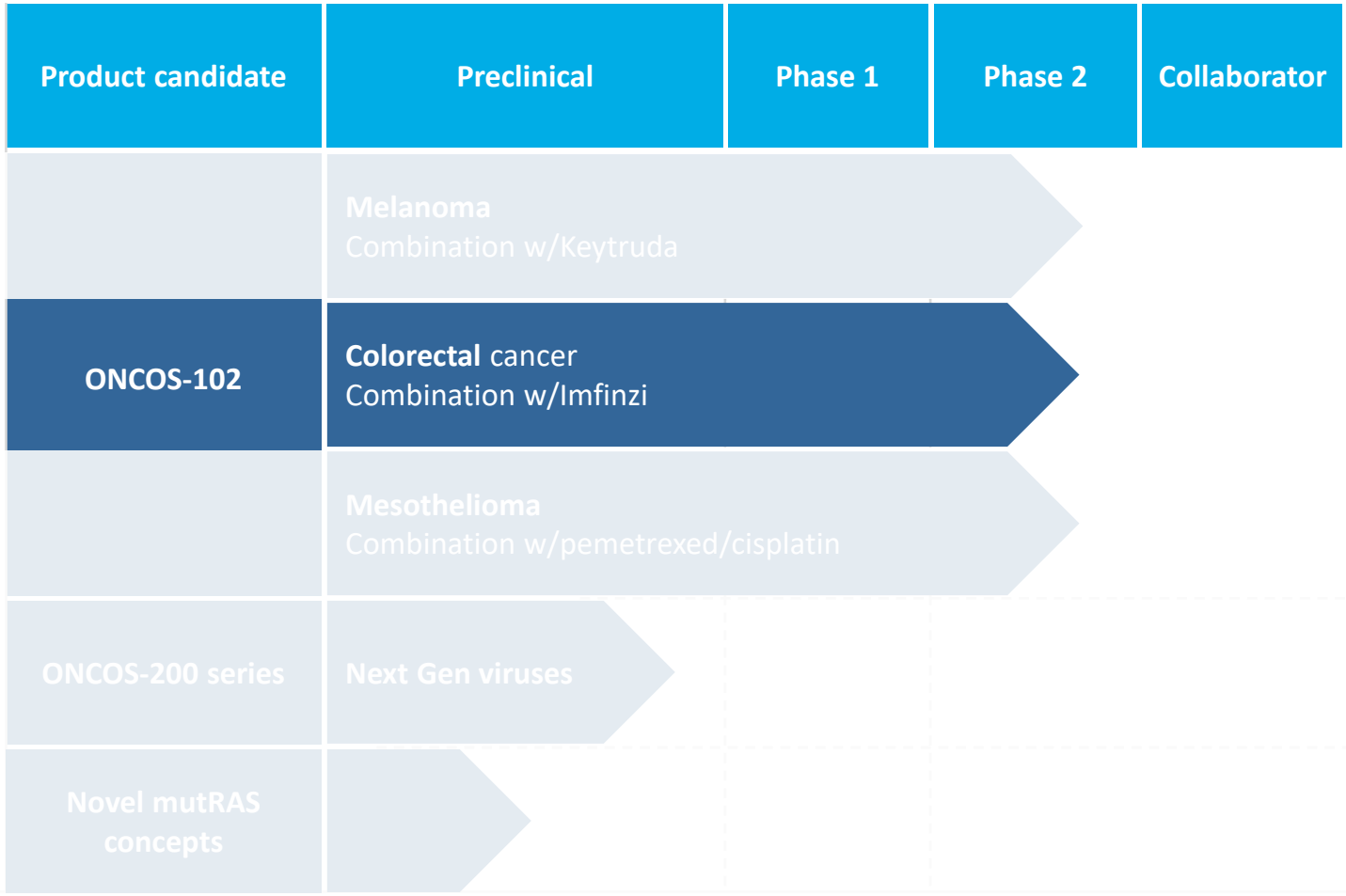
Product candidate
Preclinical
Phase 1
Phase 2
Collaborator
Melanoma
Combination w/Keytruda
ONCOS-102
Colorectal cancer
Combination w/Imfinzi
Mesothelioma
Combination w/pemetrexed/cisplatin
ONCOS-200 series
Next Gen viruses
Novel mutRAS concepts

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COLLABORATION IN COLORECTAL CANCER WITH

PHASE 1/2 TRIAL COMBINING ONCOS-102 AND IMFINZI

CANCER RESEARCH INSTITUTE

LUDWIG CANCER RESEARCH

AstraZeneca

Patients

- Primary colorectal cancer with peritoneal metastases
- Failed prior standard-of-care platinum chemotherapy

Dose escalation

Safety lead-in

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

Disease control in 2 of 5 patients in full dose cohort

Expansion

Part 1

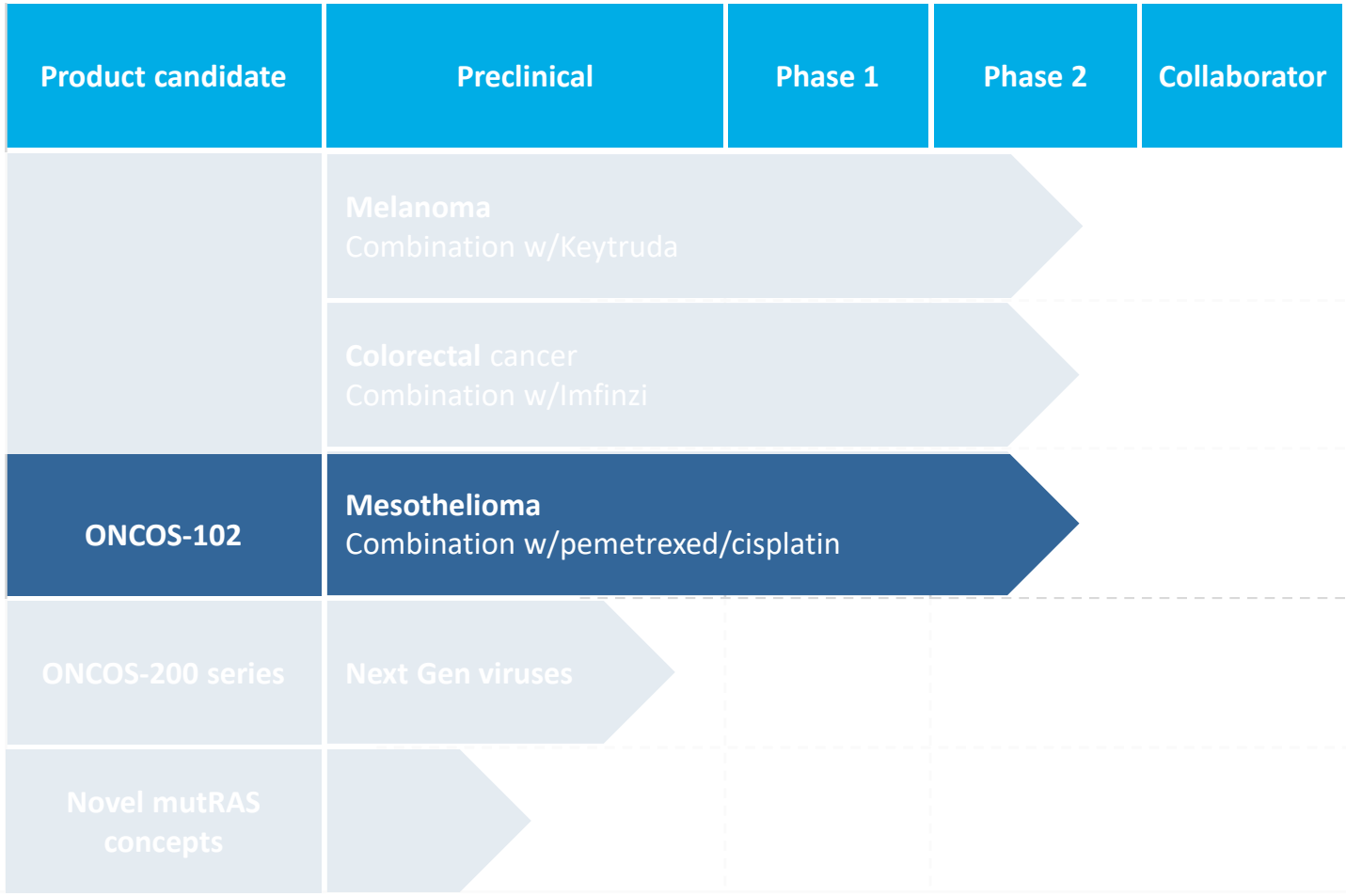
13 patients
Disease control in 3/13

Simon's two-stage design

Part 2

14 patients
7 patients recruited

Expected complete recruitment 1H21
Expected data (27 patients) 1H22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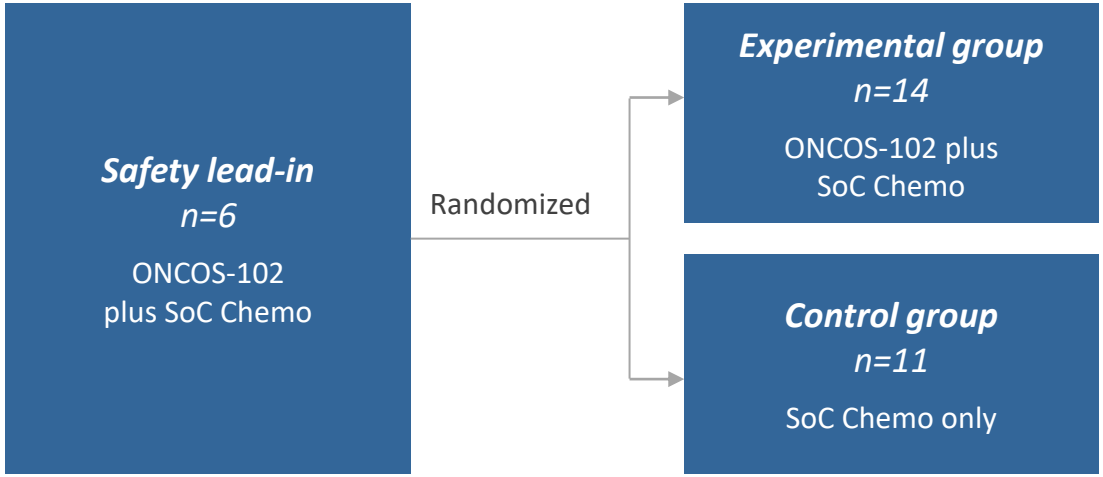
ADVANCED MALIGNANT PLEURAL MESOTHELIOMA

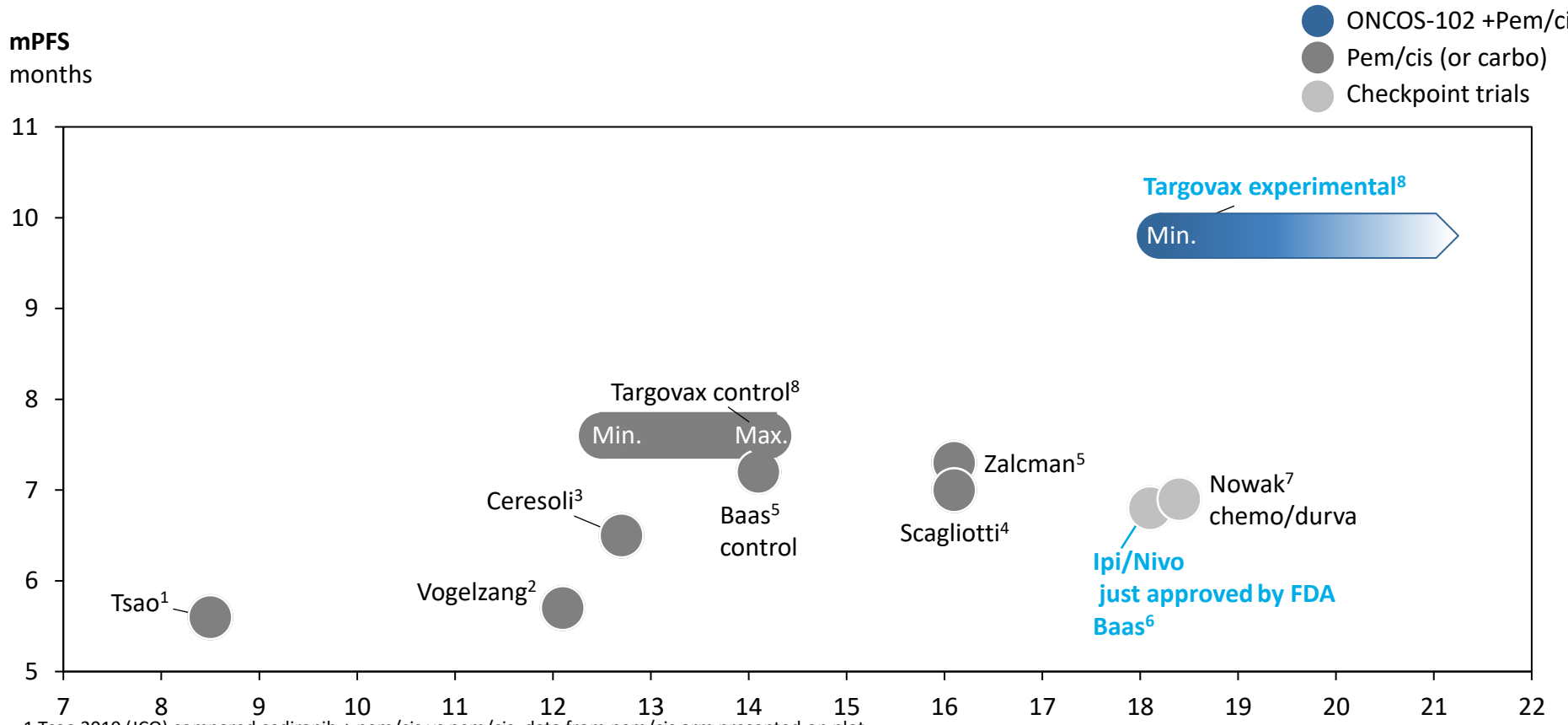
PHASE 1/2 TRIAL IN COMBINATION WITH CHEMO

Trial design

- 1st and 2nd line
- Standard of Care (SoC) pemetrexed/cisplatin +/- ONCOS-102



CLINICAL OUTCOMES IN 1ST LINE COMPARE FAVORABLY TO HISTORICAL CONTROL



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 1st 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

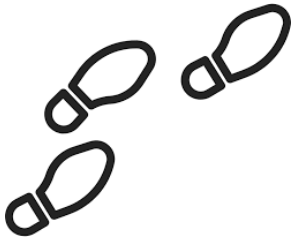
FAST TRACK DESIGNATION AND EVOLVING SURVIVAL DATA PROVIDE OPPORTUNITIES

Well **tolerated** combination therapy

Clear clinical activity in **1st line** patients

Interim **survival** data promising even without CPI

FDA granted **Fast Track** designation in mesothelioma



Next steps

- Continue follow patients to determine mOS
- Decide development path
- Leverage collaboration partner Merck

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ONCOS-102 OPPORTUNITIES BEYOND MELANOMA AND MESOTHELIOMA

COLORECTAL

- Large medical need and strong scientific rationale for CPI combination
- Met predetermined efficacy threshold in Simon two-stage trial

- **Data expected during 1H 2022**
- **Review opportunity and development with AstraZeneca**

FURTHER OPPORTUNITIES

- Melanoma trial serves as POC for other CPI-refractory indications

- **Investigate opportunities in CPI refractory indications beyond melanoma e.g. head & neck, breast cancer**

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CLINICAL AND PRECLINICAL PIPELINE

Product candidate	Preclinical	Phase 1	Phase 2	Collaborator	Next expected event
ONCOS-102	**Melanoma** Combination w/anti PD1				**1H 2022** First patient
	Colorectal cancer Combination w/Imfinzi			AstraZeneca CANCER RESEARCH INSTITUTE	*Update by collaborator – clinical data expected 1H22*
	Mesothelioma Combination w/pemetrexed/cisplatin			MERCK	**1H 2021** Survival update
ONCOS-200 series	**Next Gen viruses**			leidos Papyrus	*Updates at conferences*
Novel mutRAS concepts				VALO THERAPEUTICS OBLIQUE THERAPEUTICS	

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