

Activating the patient's immune system to fight cancer

DNB Healthcare conference

December 2018



targovax

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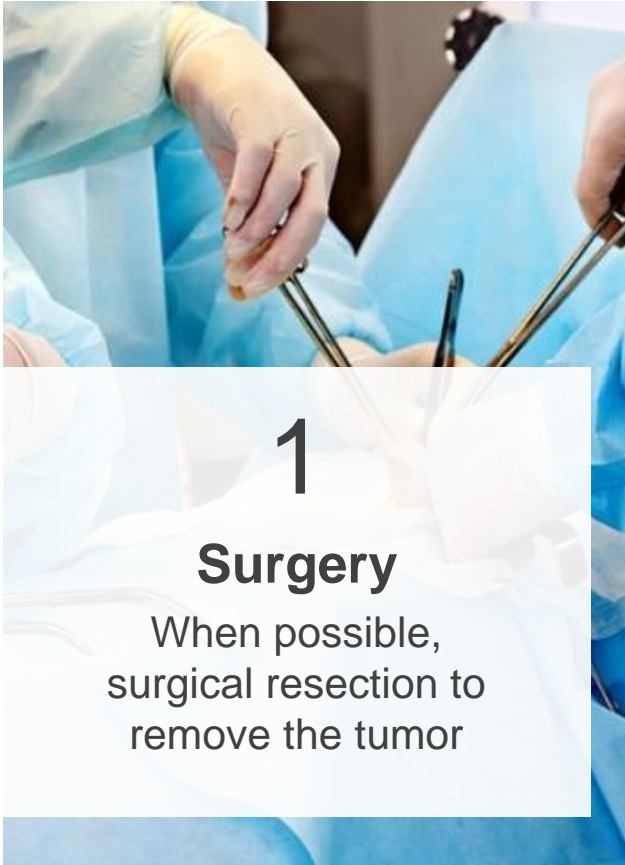
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Introduction

2. ONCOS oncolytic virus program
3. TG mutRAS neoantigen vaccine
4. Corporate overview

From a sequential treatment strategy directly targeting the cancer...



1

Surgery

When possible,
surgical resection to
remove the tumor



2

Radiotherapy

Tumor irradiation
to shrink
tumor volume



3

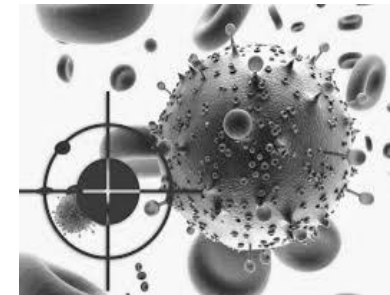
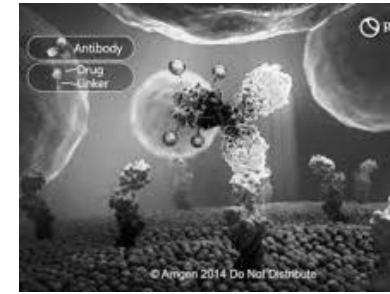
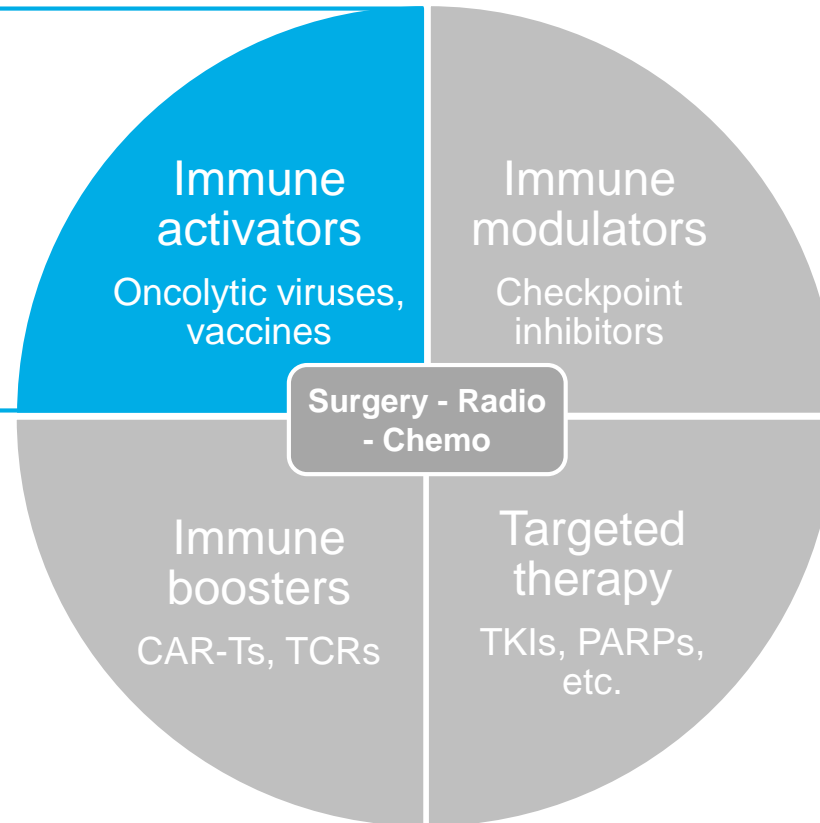
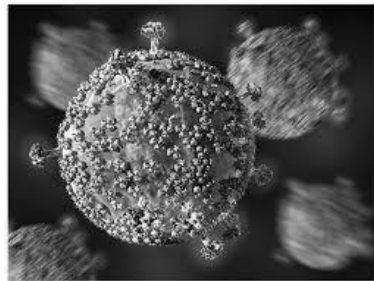
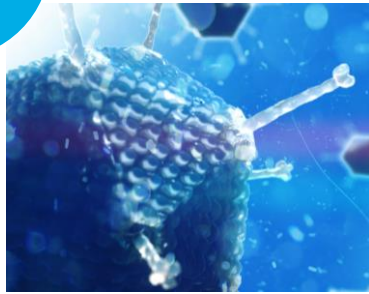
Chemotherapy

Cornerstone treatment
in most cancer forms

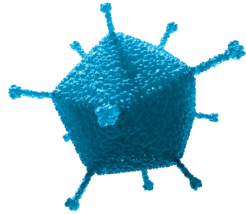
...to an integrated combination approach

HARNESSING THE POWER OF THE PATIENT'S OWN IMMUNE SYSTEM

Targovax focus



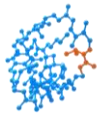
Two programs in clinical development, with an
ONCOLYTIC VIRUS LEAD PRODUCT CANDIDATE



ONCOS
Oncolytic virus

Lead product candidate

- Genetically armed **adenovirus**
- Triggers prodction of T-cells targeting the **patient's specific tumor**
- 4 ongoing trials



TG
Neoantigen
vaccine

Pipeline product

- **Shared neoantigen**, therapeutic cancer vaccine
- Triggers prodction of T-cells targeting **mutant RAS cancers**
- 1 recently completed, 1 ongoing trial

Triggers patient-specific responses

No need for individualization

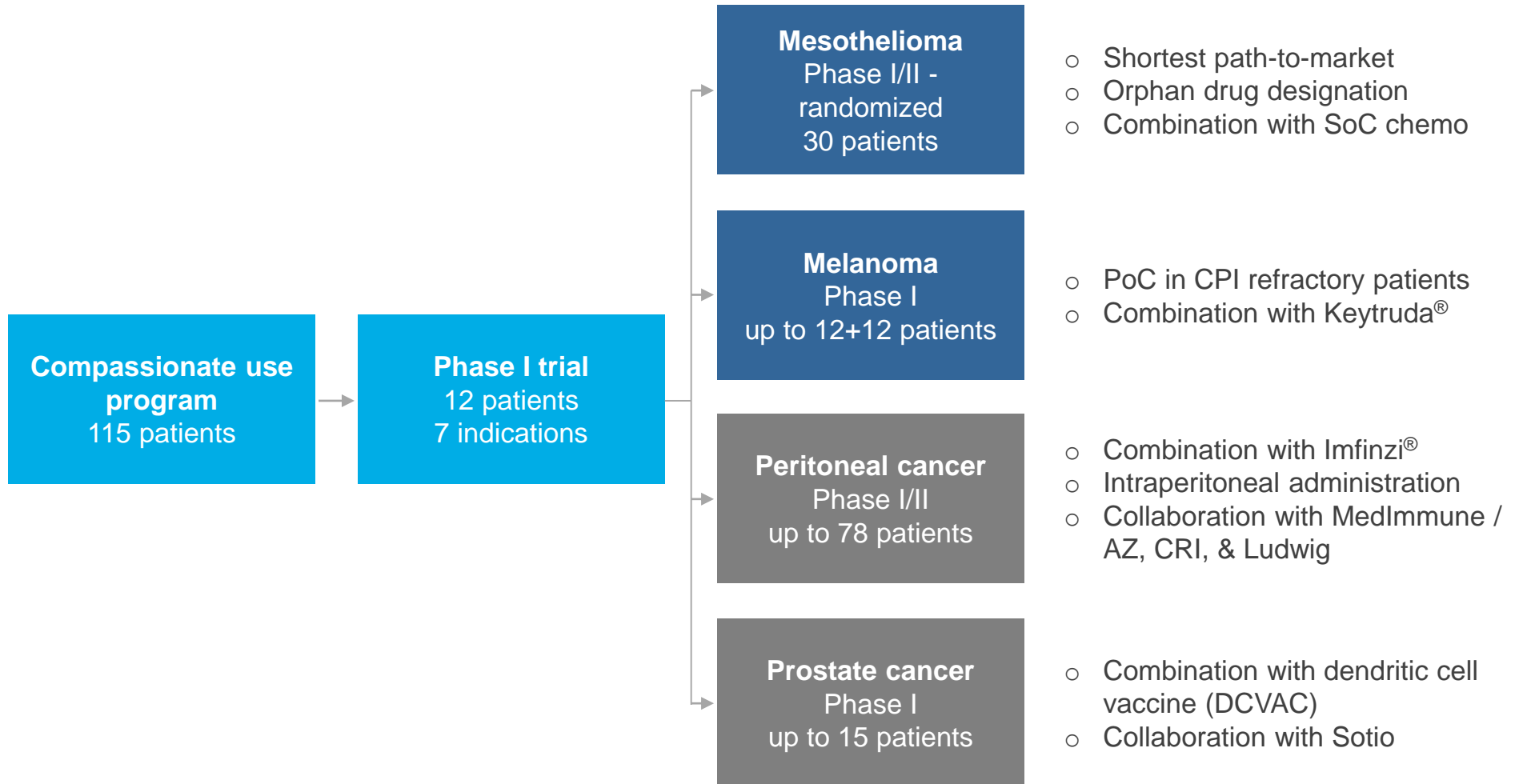
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ONCOS oncolytic virus program

3. TG mutRAS neoantigen vaccine
4. Corporate overview



ONCOS CLINICAL PROGRAM OVERVIEW





ONCOS-102 CLINICAL DATA SO FAR

Immune activation

Efficacy

Various solid tumors
Ph I
Monotherapy

- Innate: 12/12
- Adaptive: 11/12

- 40% disease control rate
- 2 long-term survivors
- Survival correlated with TIL increase
- Abscopal effect detected

Mesothelioma
Ph I/II randomized
with SoC chemo

- Innate: 6/6
- Adaptive: 3/4

- 50% Disease control rate
 - 1 partial response
 - 2 stable disease

Melanoma
Ph I
Combo with
Keytruda®

- Innate: 6/6
- Adaptive: 4/4

- 1 complete response, w/supporting immune data
- 3 local responders, but with distal progression

COMPLETE RESPONSE IN MELANOMA PATIENT



Baseline



Progression on Keytruda®

Week 3



3x ONCOS-102 injections

Week 9



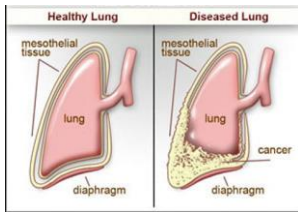
*Complete response (CR) after
3x ONCOS-102 injections
& 2 Keytruda® infusions*



ONCOS CLINICAL DEVELOPMENT STRATEGY

1

Path-to-market
Orphan indication

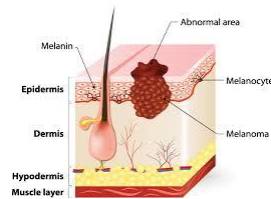


Target launch
indication

- Mesothelioma
- Orphan drug status
- Combo with SoC

2

Proof-of-concept
Re-activating CPIs



CPI refractory
cancers

- CPI refractory melanoma
- Combo w/PD-1

3

Proof-of-concept
New CPI indications

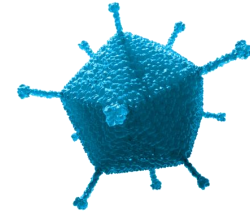


**Indications with no/
limited effect of CPIs**

- Ovarian and colorectal cancer with spread to peritoneum
- Combo w/PD-L1

4

Next generation
oncolytic viruses

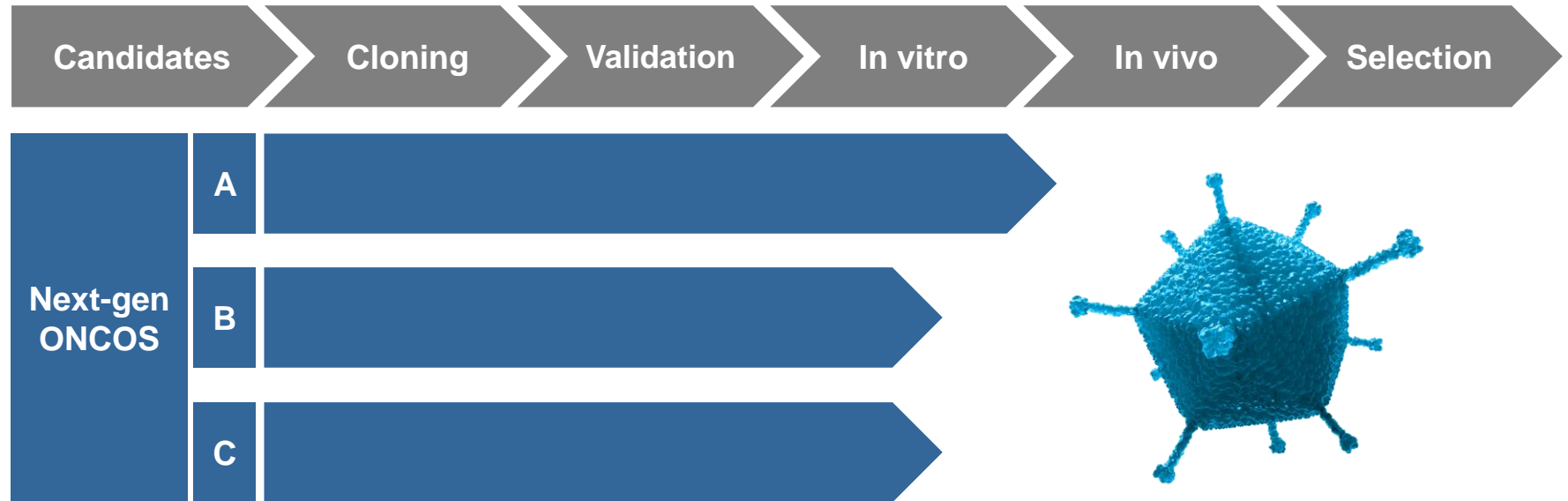


Platform expansion
with new targets

- Ongoing *in vivo* testing
- Novel targets and mode-of-action



PRECLINICAL DEVELOPEMENT NEXT GENERATION ONCOLYTIC VIRUSES

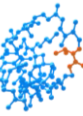


- Adenoviruses – same backbone as ONCOS-102
- Targets and transgenes undisclosed
- Unique modalities that affects the micro tumor environment and the immune system in different ways

3

TG mutRAS neoantigen vaccine

4. Corporate overview

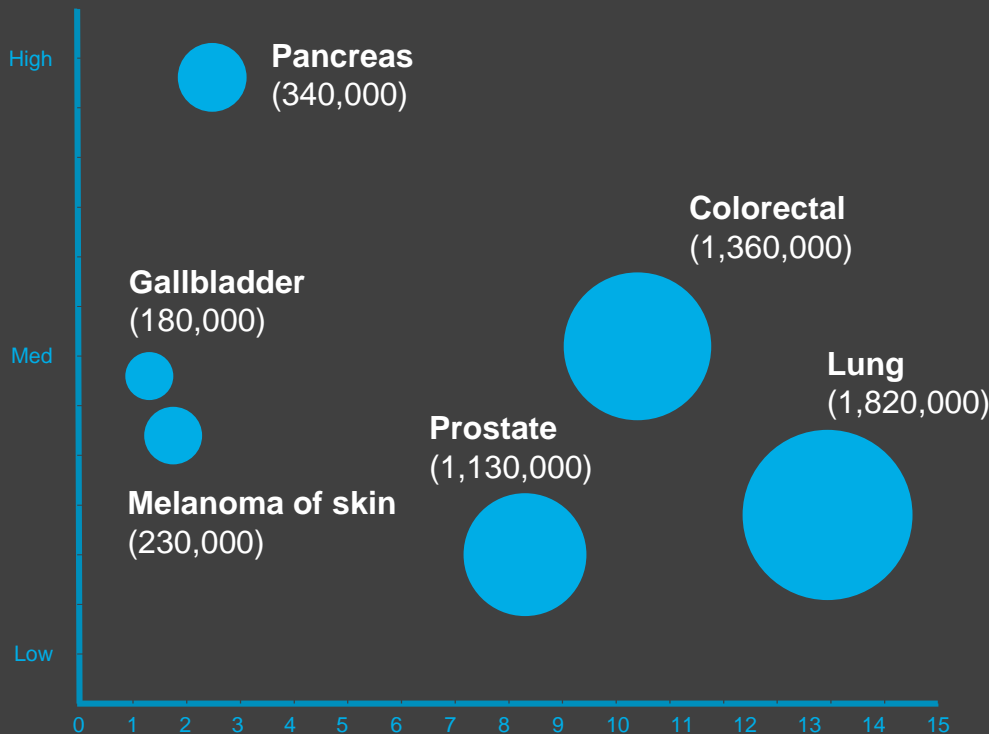


The RAS gene is mutated in 90% OF PANCREATIC AND 50% OF COLORECTAL CANCERS

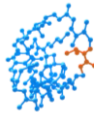
Frequency of RAS mutations

Global cancer incidents per 10,000

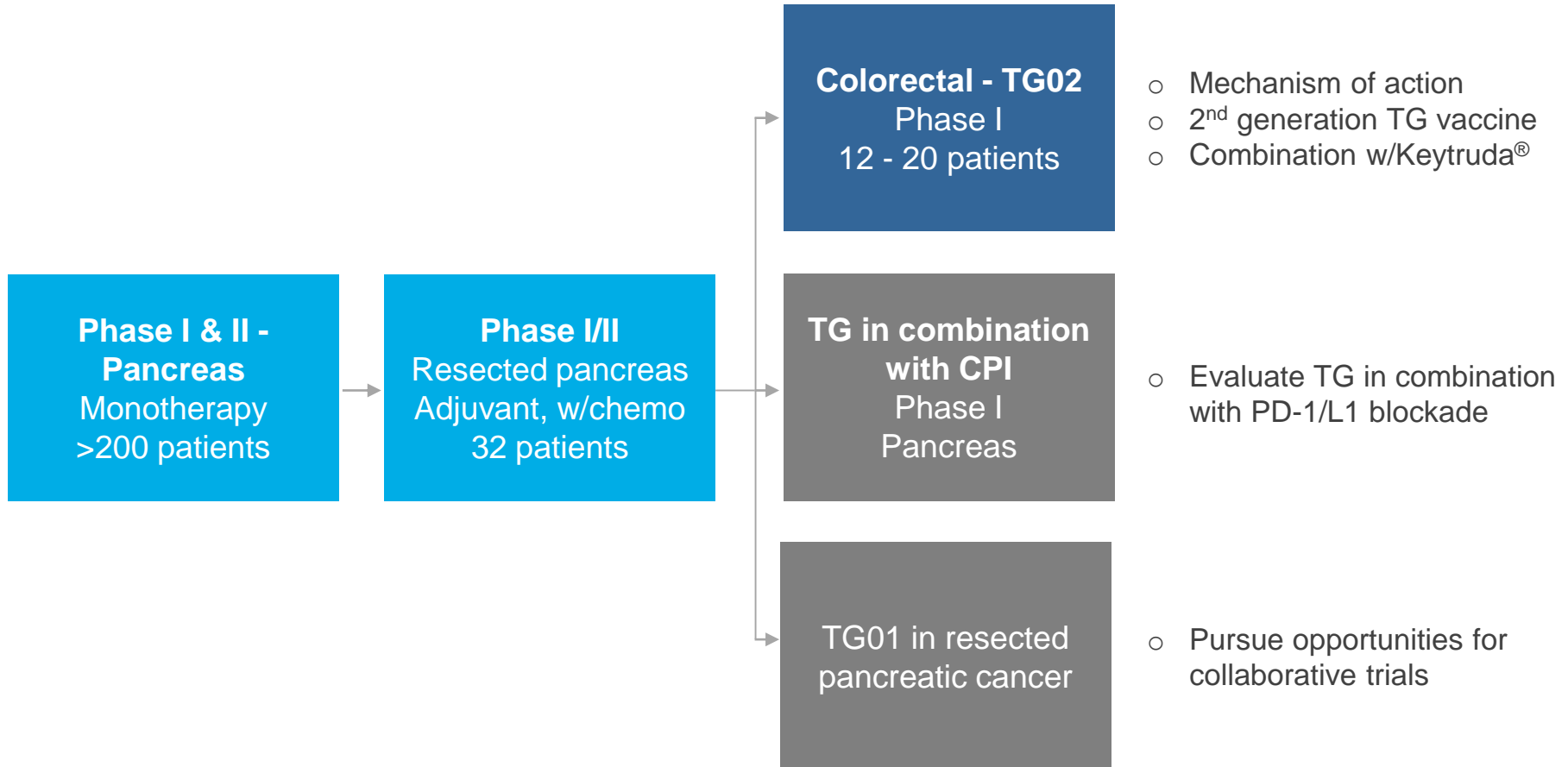
(xx) = no. of cancer patients

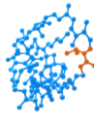


- RAS mutations are oncogenic and result in **uncontrolled cell division**
- There are **no existing therapies** targeting RAS mutations
- Targovax' TG program is a **unique neoantigen vaccine approach** for mutant RAS cancer



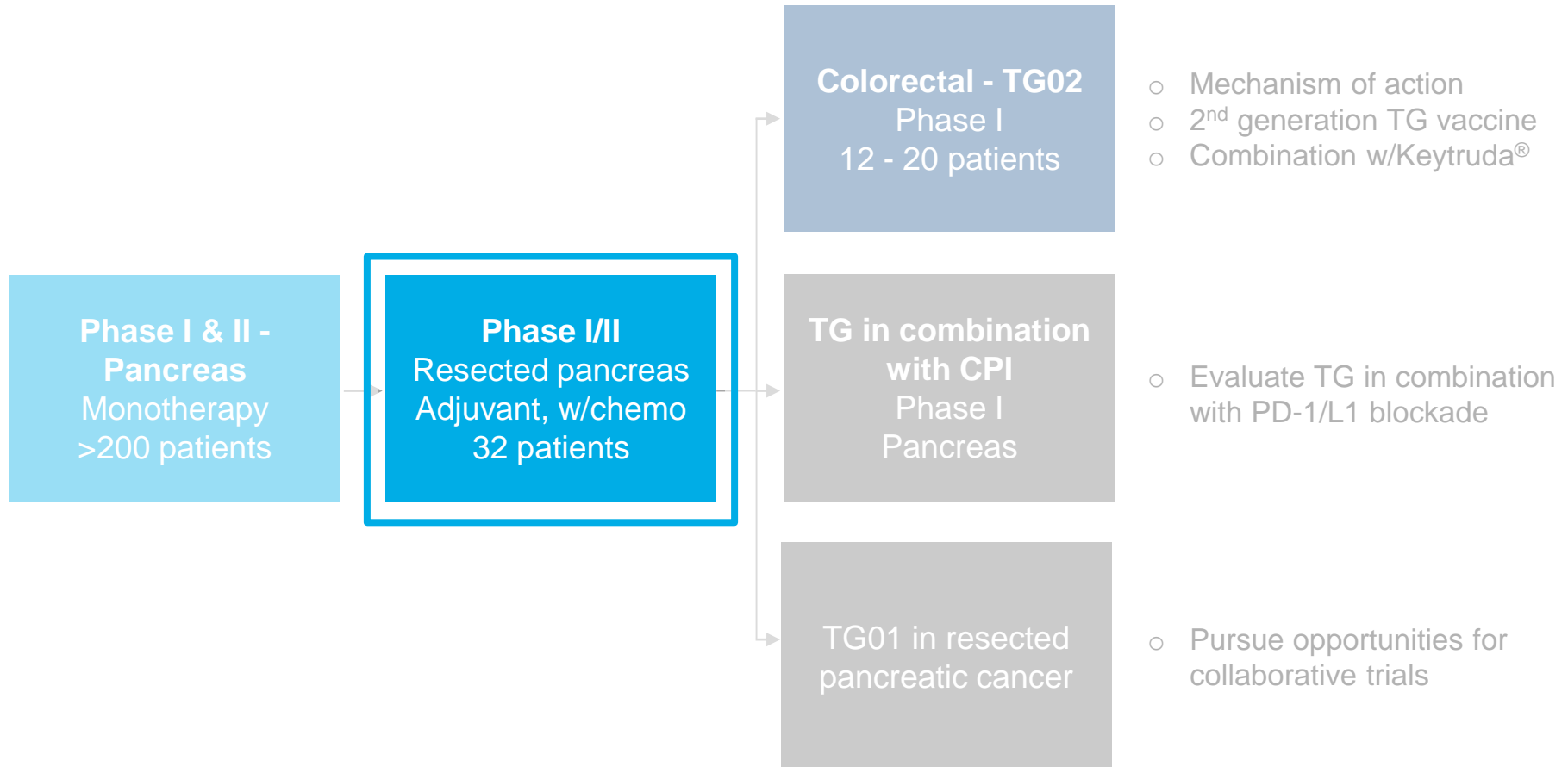
TG CLINICAL PROGRAM OVERVIEW

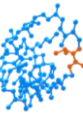




TG CLINICAL PROGRAM OVERVIEW

Phase I/II trial in resected pancreas cancer recently completed





TG01 IN RESECTED PANCREATIC CANCER

SIGNAL OF EFFICACY SEEN IN PHASE I/II TRIAL

Median overall survival

33.4 vs. 27.6 months reported in the ESPAC4 trial for gemcitabine alone (from time of surgery)

- First cohort: 33.1 months
- **Second cohort: not yet reached**

Median disease free survival (DFS)

16.1 vs. 13.1 months reported in the ESPAC4 trial for gemcitabine alone (from time of surgery)

- First cohort 13.9 months
- **Second cohort 19.5 months**

mutRAS immune activation

94% (30 out of 32 patients) had **RAS-specific immune activation**

Dosing and safety

Dosing regimen improved and TG01 is **well-tolerated**

First cohort: 19 pts, Second cohort: 13 pts. Total 32 pts.

4

Corporate overview

PIPELINE OVERVIEW AND MILESTONES

Platform	Product candidate	Preclinical	Phase I	Phase II	Phase III	Next expected event
ONCOS oncolytic adenovirus	ONCOS-102	Mesothelioma Comb. w/ pemetrexed/cisplatin				1H 2020 Randomized ORR data
		Melanoma Comb. w/Keytruda®				1H 2019 ORR and immune data first cohort
		Peritoneal metastasis Collab: Ludwig, CRI & AZ Comb. w/Imfinzi®				<i>Update by collaborator, expected 2019</i>
		Prostate Collab: Sotio Comb. w/Dcvac				<i>Update by collaborator, expected 2019</i>
	Next-gen ONCOS	3 viruses undisclosed				2H 2019 First pre-clinical data
TG neo-antigen cancer vaccine	TG01	Pancreatic cancer Comb. w/gemcitabine				TBD
	TG02	Colorectal cancer Proof-of-mechanism Comb. w/Keytruda®				1H 2019 Immune activation and mechanistic data (mono)
	TG02	CPI synergy TG + PD-1				2019 First pre-clinical data



ACTIVATING THE PATIENT'S IMMUNE SYSTEM

to fight cancer

ONCOS-102: lead product

Strong single agent data
Several upcoming data points

TG: clinical effect in pancreas

First cancer vaccine to show
immune activation against a
driver mutation

Ideal combination product

Innovative pipeline

Next generation
viruses in testing

