

ACTIVATING THE PATIENT'S IMMUNE SYSTEM TO FIGHT CANCER

1Q 2020

7 May 2020

targovax

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Intro & Highlights

2. Dr Victor Levitsky, Chief Scientific Officer
3. Pipeline initiatives
4. Financials
5. Newsflow

GROWING NEED FOR IMMUNE ACTIVATORS

*CPIs are revolutionizing
cancer treatment...*

*...but not all patients
respond to CPIs...*

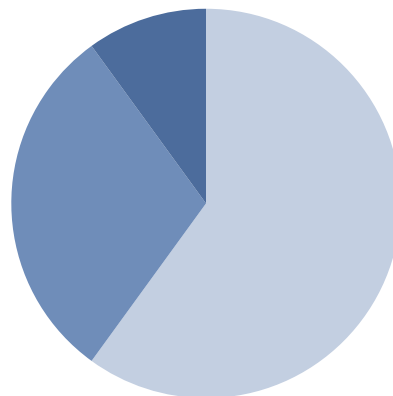
*...leading to high medical
need for immune activators*

22 bn USD

Global CPI market¹

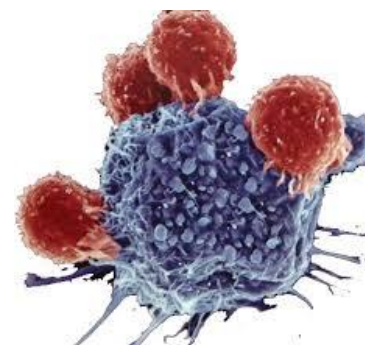
44 %

Patients eligible for CPI²:



10 - 40 %

Responders



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

² 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.

ACTIVATING THE IMMUNE SYSTEM TO FIGHT CANCER



ONCOS-102 lead clinical asset

- ONCOS oncolytic adenovirus platform targets hard-to-treat **solid tumors**
- One of the **furthest developed** OV's with >180 patients treated to date
- Four ongoing combination trials ensuring **rich news flow** in 2020

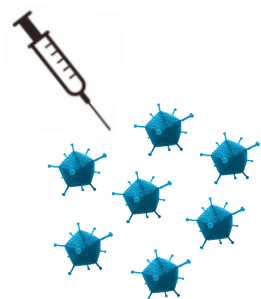


Encouraging clinical efficacy demonstrated

- Strong **single agent** immune activation and clinical data
- **33% ORR** in anti PD-1 refractory melanoma in combination with Keytruda
- Encouraging first set of **clinical and immune data in mesothelioma**

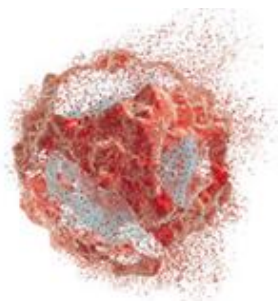
ONCOS-102 MODE OF ACTION MAKES AN IDEAL COMBINATION PARTNER FOR CHECKPOINT INHIBITORS

1 Virus injection Local delivery



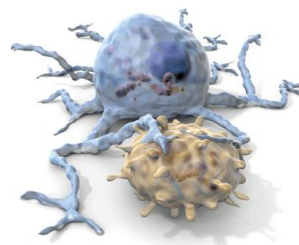
- Intratumoral or intra-peritoneal injection
- Tumor cell infection

2 Oncolysis Immune activation



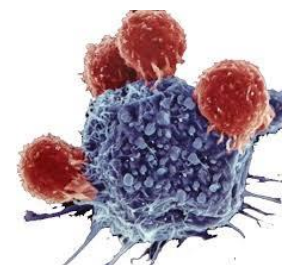
- Lysis of tumor cells
- Inflammatory response
- Tumor antigen release

3 Antigen processing T-cell activation













- Antigen processing
- T-cell activation in lymph nodes

4 T-cell response Anti-tumor immunity



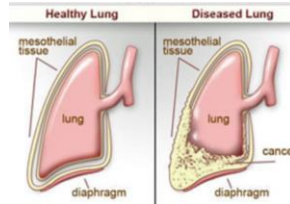
- T-cell tumor infiltration
- Tumor antigen recognition
- CPIs “releasing brakes”

SEVERAL SIGNIFICANT BD TRANSACTIONS IN THE ONCOLYTIC VIRUS SPACE IN 2018-2019

Target		Type of deal	Deal value
		Strategic collaboration Co-development of multiple vaccinia viruses, Pre-clinical	USD 120m near-term USD >900m total value
		M&A RNA virus, Phase II	USD 400m cash acquisition
		M&A Herpes virus, Pre-clinical	USD 140m up-front USD 1b total value
		M&A VSV virus, Pre-clinical	USD 250m cash acquisition
		R&D partnership Co-development of novel vaccinia viruses, Pre-clinical	USD 10m up-front Unknown total value

ONCOS DEVELOPMENT STRATEGY

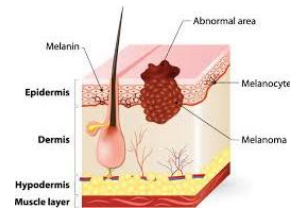
1 Establish path-to-market



Mesothelioma

- ~15.000 patients
- Potential for first line, limited competition

2 Activate refractory tumors



Anti-PD1 refractory melanoma

- Few alternatives for ~50.000 patients
- Benchmarking arena for immune activators

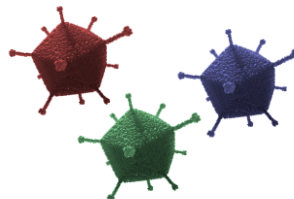
3 Expand CPI indications



Peritoneal malignancies

- Metastases from ovarian and colorectal cancers
- >100.000 patients not responding to CPIs

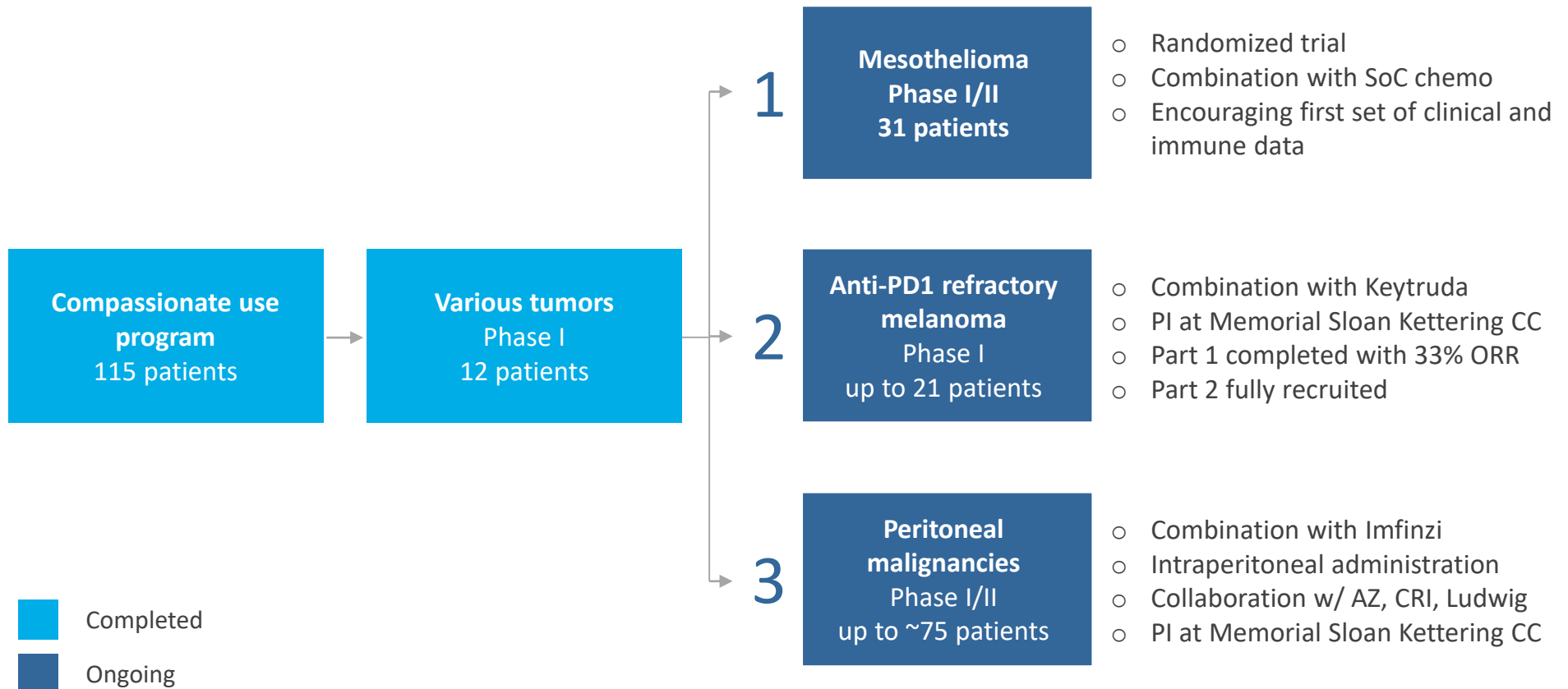
4 Expand platform



Next generation oncolytic viruses

- Double transgenes
- Novel targets and modes of action

ONCOS-102 CLINICAL DEVELOPMENT PROGRAM



RECENT HIGHLIGHTS

ONCOS

- Announced encouraging data in **mesothelioma** trial combining ONCOS-102 and chemotherapy
- Completed enrollment of **melanoma** trial
- Entered into a **collaboration** to develop mutant RAS neoantigen coating of ONCOS viruses using Valo Therapeutic's PeptiCRAd technology
- Announced that an abstract on interim Phase 1 data from peritoneal trial is accepted at ASCO

TG

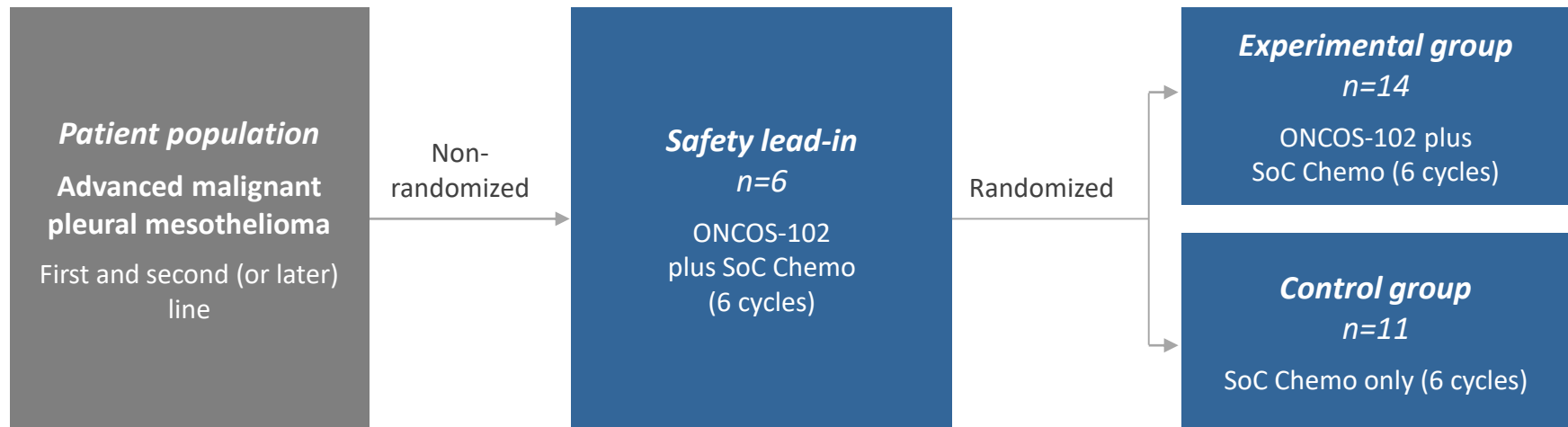
- Entered into an **option agreement** with IOVaxis Therapeutics for a TG mutant RAS vaccine license and clinical development agreement in China

Corporate

- Completed a private placement, raising gross proceeds of approx. NOK 101 million (USD 11.2 million)
- Announced election of Damian Marron as **Chairman** of the Board
- Appointed Dr Victor Levitsky, MD, PhD as **CSO**

ONCOS-102 MESOTHELIOMA PHASE I/II TRIAL IN COMBINATION WITH CHEMO

STUDY DESIGN



ONCOS-102 MESOTHELIOMA PHASE I/II TRIAL

6-MONTHS DATA AND NEXT STEPS



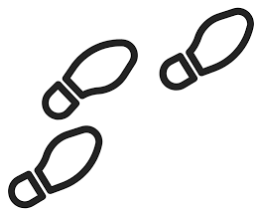
Excellent safety profile confirmed

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



Clinical activity observed

- mPFS of 8.9 months in first line suggest **benefit** for ONCOS-102 treated patients and **compares favorably** to historical control of 5.7-7.3 months
- Increased **T-cell infiltration** and **PD-L1 expression**
- Robust immune activation **associated with clinical benefit**



Next steps defined

- 12-months data expected during summer
- **First line** identified as **target population** for follow-up trial
- Strong rationale for combination with **anti-PD1/L1 CPI**. Discussions with **pharma partner** for trial collaboration

LIMITED IMPACT ON OPERATIONS OF COVID-19

Data collection

- Some hospital labs closed: samples from some patients not collected
- Delayed monitoring may impact read-out timelines. Guiding not affected

Patient recruitment

- Mesothelioma trial: fully recruited 2019
- Melanoma trial: fully recruited February
- Peritoneal trial: recruiting

Logistics

- Uninterrupted

Patient treatment

- Uninterrupted

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Dr Victor Levitsky, Chief Scientific Officer

- 3. Pipeline initiatives
- 4. Financials
- 5. Newsflow

VICTOR LEVITSKY – CHIEF SCIENTIFIC OFFICER

- M.D. with Ph.D. in virology
- Associate professor and Principal Investigator at the Microbiology and Tumor biology center, Karolinska Institute, Stockholm, Sweden
- Associate professor at the Oncology Department, Johns Hopkins University School of Medicine
- Senior Principal Scientist and Tumor Immunology Leader at Roche, Zurich, Switzerland
- VP and Head of Oncology Research at Molecular Partners, AG, Zurich, Switzerland
- More than 60 papers including top tier peer-reviewed journals along with several reviews and editorials

VICTOR LEVITSKY – CHIEF SCIENTIFIC OFFICER

- Support optimal design, collection, analysis and scientific interpretation of data from the ongoing clinical trials
- Generate pre-clinical data sets to reveal full potential of available ONCOS200 series of vectors for selection of development lead candidates and novel partnering opportunities
- Initiate internal and external activities towards further portfolio expansion based on the ONCOS platform
- Explore novel approaches for synergistic combination of the ONCOS and TG platforms

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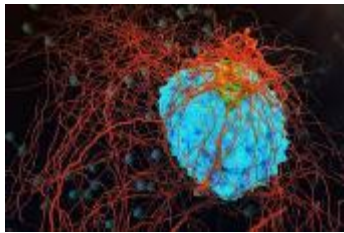
Pipeline initiatives

- 4. Financials
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NEXT GENERATION ONCOS VIRUSES HAVE DOUBLE TRANSGENES AND DISTINCT MODES OF ACTION

Mode of action

Target tumors

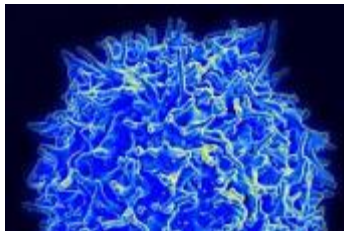


ONCOS-210 & -212

Inhibition of tumor growth and vascularization

- Interfere with tumor's ability to break down surrounding tissue
- Induce cell cycle arrest
- Inhibit angiogenesis

- Highly invasive or metabolic tumors

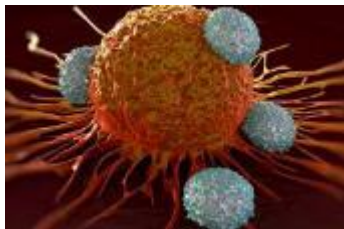


ONCOS-211

Counteract immune-suppressive tumor microenvironment

- Decrease inhibitory factors from tumor microenvironment
- Activate T-cells

- "Cold" uninflamed tumors



ONCOS-214

Enhanced cell killing properties

- Induce immunogenic cell death
- Extend cell killing ability to neighboring non-infected cells

- High-stroma tumors

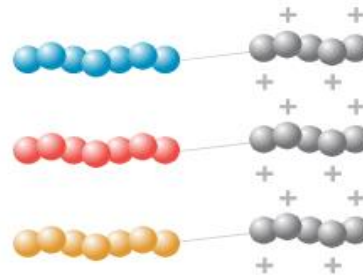
MERGING TARGOVAX PLATFORMS TO GENERATE A FIRST-IN-CLASS MUTANT RAS TARGETING ONCOLYTIC VIRUS

ONCOS-102



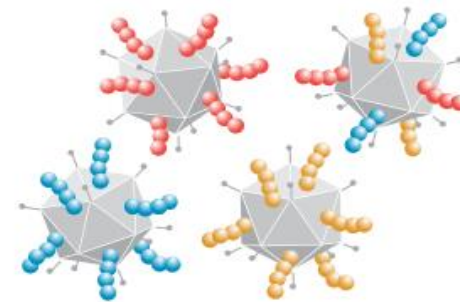
Negative surface charge of adenovirus capsid

TG peptides



Positively charged tail added to TG mutant RAS peptides

ONCOS-TG PeptiCRAd



Coating of TG peptides onto ONCOS-102 by electrostatic interaction

Utilizing Valo Therapeutic's technology platform to coat ONCOS-102 with TG peptides

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Financials

5. Newsflow

SUFFICIENTLY FUNDED TO ADVANCE CLINICAL PROGRAM BEYOND VALUE INFLECTION POINTS

The company

Cash end of 1Q

135 / 13
NOK million USD million

Net cash flow - total 1Q

65 / 6
NOK million USD million

Market cap

690 / 66
NOK million USD million

Analyst coverage

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

The shareholders

Estimated ownership¹

Shareholder	Shares million	Ownership
HealthCap	12.4	16.3 %
RadForsk	4.4	5.8 %
Nordea	4.3	5.7 %
Fjarde AP-Fonden	3.0	3.9 %
Thorendahl Invest	1.5	2.0 %
Danske Bank (nom.)	1.2	1.6 %
Morgan Stanley	1.1	1.5 %
Bækkelaget Holding	1.1	1.4 %
MP Pensjon	1.0	1.4 %
Sundt AS	1.0	1.3 %
10 largest shareholders	31.1	40.8 %
Other shareholders (4 997)	45.0	59.2 %
Total shareholders	76.1	100.0 %

REDUCED OPEX IN 1Q20 IN LINE WITH 3Q19

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

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Newsflow

PIPELINE WITH RICH NEAR-TERM NEWS FLOW

Product candidate	Preclinical	Phase I	Phase II	Phase III	Next expected event
ONCOS-102	Mesothelioma Combination w/ pemetrexed/cisplatin				1H 2020 Updated clinical and immune data
	Melanoma Combination w/Keytruda				2H 2020 Clinical and immune activation data
	Peritoneal malignancies Collaborators: Ludwig, CRI & AstraZeneca Combination w/Imfinzi				1H 2020 Update at ASCO
	Prostate Collaborator: Sotio Combination w/DCvac				<i>Update by collaborator</i>
ONCOS-200 series	Next Gen viruses				Updates at conferences
Novel mutRAS concepts					

Upcoming events

12-15 May	ASGCT, virtual conference	Next-gen virus poster
26 May	ABGSC Life Science Summit, virtual conference	Company presentation
29-31 May	ASCO, virtual conference	Abstract presentation
22-24 Jun	AACR, virtual conference	Next-gen virus poster
10-11 Aug	IO Summit, Boston, US	Oral presentation
15-16 Sep	RAS-targeted drug discovery summit, Boston, US	Oral presentation

Upcoming milestones

1H 2020	ONCOS-102 phase I/II trial in unresectable malignant pleural mesothelioma	– <i>Updated clinical and immune data</i>
2H 2020	ONCOS-102 phase I trial in checkpoint inhibitor refractory advanced melanoma	– <i>Part 2 data</i>





ACTIVATING THE IMMUNE SYSTEM TO FIGHT CANCER

CLINICALLY PROVEN

One of the furthest developed
oncolytic viruses

Strong single agent data

Activation of anti-PD1
refractory tumors

INNOVATIVE PIPELINE

Next generation
virus platform in
pre-clinical testing

Exploring novel mutant RAS
concepts

RICH NEWS FLOW

Clinical and immune activation
from mesothelioma and
melanoma trials

Readout from peritoneal trial