Q1 2018

INTERIM RESULTS AS OF MARCH 31, 2018



FORWARD-LOOKING STATEMENTS

This presentation includes forward-looking statements that involve risks, uncertainties and other factors, many of which are outside of our control that could cause actual results to differ materially from the results discussed in the forward-looking statements. Forward-looking statements include statements regarding our short-term objectives and opportunities, financial expectations for the full year and financial preparedness as of year end, as well as statements concerning our plans, objectives, goals, future events, performance and/or other information that is not historical information. All such forward-looking statements are expressly qualified by these cautionary statements and any other cautionary statements which may accompany the forward-looking statements. We undertake no obligation to publicly update or revise forward-looking statements to reflect subsequent events or circumstances after the date made, except as required by law.

RECENT HIGHLIGHTS

IMVAMUNE

 Strong efficacy data read out from Phase 3; BLA submission expected in H2 2018

RSV

 First in class RSV vaccine demonstrated presence of mucosal protective antibodies; booster data and challenge study decision later in 2018

CV301

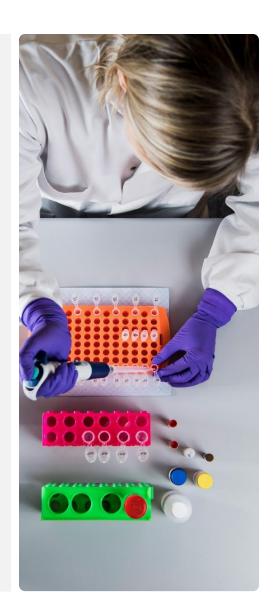
• 2 new industry partnerships; 4 Phase 2 studies in combination with ICIs to initiate this year

BN-Brachyury

 Orphan Drug designation obtained from FDA; advancing BN-Brachyury into pivotal registration trial in Chordoma

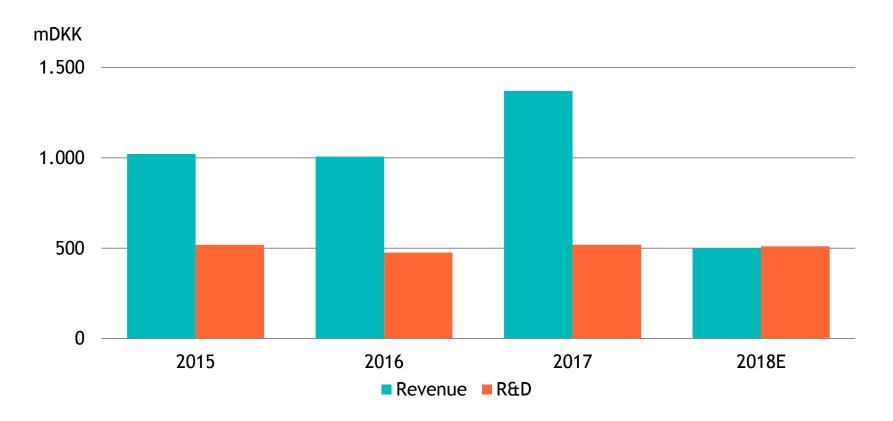
Other business

 New USG partnership in mosquito-borne illness: Equine Encephalitis



INVESTING IN THE PIPELINE TO CREATE MORE VALUE

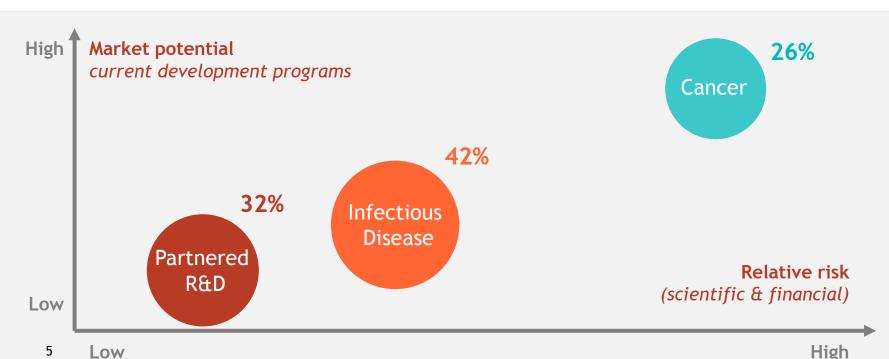
- Despite a temporary decline in IMVAMUNE revenues, investment in R&D remains a priority.
 - Return to historical revenues anticipated as manufacturing facility is completed.
 - Cash reserves ensure R&D will not be slowed due to resource constraints



A RE-BALANCED R&D SPEND IN 2018

approach to oncology investments

- Revisions to clinical strategy post-PROSPECT represent a more measured
- 2 of 4 CV301 studies now paid for through collaboration with outside investigators and large pharma
- Clinical design will require evidence of initial efficacy in patients prior to expanding enrollment or investments



CV301 - MEASURED AND BALANCED CLINICAL STRATEGY

 During 2018, four Phase 2 trials will evaluate the combination of CV301 and checkpoint inhibitors across three indications

Non-small cell lung cancer (NSCLC)

Proof-of-concept study of CV301 plus KEYTRUDA (pembrolizumab) as first-line maintenance therapy (n=176)

Large, randomized trial which will yield multiple data points

Bladder cancer



Phase 2 study of CV301 plus TECENTRIQ (atezolizumab) (n=60)

2-stage design:

Minimum efficacy thresholds must be met prior to expansion into larger studies

Colorectal & Pancreatic cancers

Phase 2 study of CV301 plus IMFINZI (durvalumab) and maintenance chemotherapy (n=54)

Physician sponsored (Georgetown University) study with financial commitment from AstraZeneca

Colorectal cancer



Phase 2 study of CV301 plus OPDIVO (nivolumab) in micro satellite stable mCRC (n=74)

Physician sponsored (Rutgers University) study with drug supply commitment from BMS

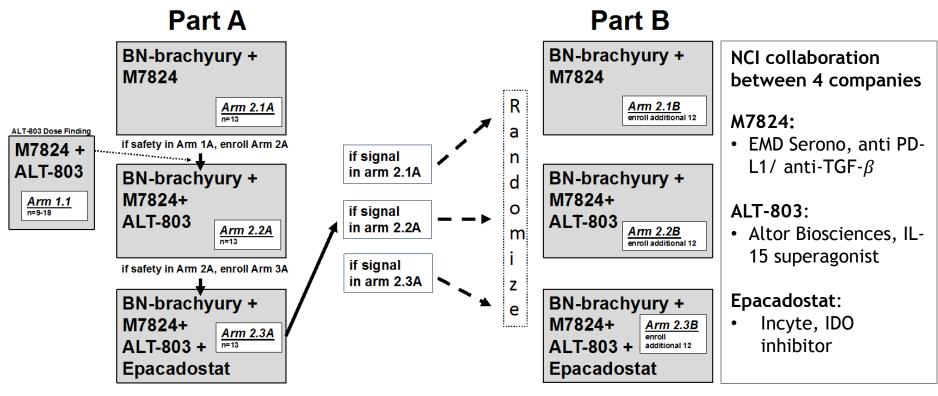
BRACHYURY PHASE 1: DATA IN H2 2018

- An Open-label Phase 1 Trial to Evaluate the Safety and Tolerability of a Modified Vaccinia Ankara (MVA) Priming Followed by Fowlpox Booster Vaccines Modified to Express Brachyury and T-cell Costimulatory Molecules:
- Initiated in January 2018
 - Status:
 - 4 patients enrolled (2 pts with chordoma on study)
 - 3 patients currently in screening
 - Enrollment anticipated full by June.
- Topline data anticipated in H2 2018
 - Safety and initial immune response data
 - Data presentation anticipated at scientific congress

A previous Phase 1 study of 38 patients receiving only MVA-BN Brachyury showed presence of brachyury specific T cells in vast majority of patients, post-treatment*

BRACHYURY: QUICK EFFICACY SEEKING TRIAL (QUEST STUDY)

- A sequential cohort study of combination immunotherapy with BNbrachyury vaccine, M7824, ALT-803 and epacadostat in metastatic castrationresistant prostate cancer (mCRPC).
 - NCI sponsored trial exploring multiple combinations of immunotherapy with BN-Brachyury as backbone therapy



BN-BRACHYURY: CHORDOMA

POTENTIAL REGISTRATION PATHWAY IN ULTRA ORPHAN CANCER: CHORDOMA



- Combination with radiation in advanced metastatic chordoma
 - Primary endpoint: Objective response rate (radiation alone <5% ORR at 6 months)
 - Recently granted Orphan Drug Designation
 - Potential for Breakthrough Designation

Population

- Patients with advanced, incurable chordoma
- At least 1 measurable lesion eligible for radiation therapy

Stage 1

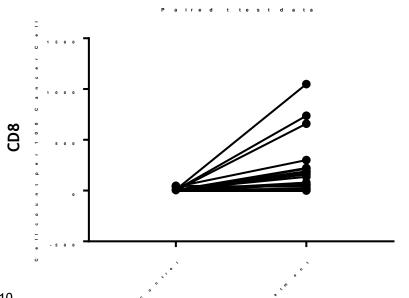
- 12 patients
- Only proceed to stage 2 if at least 2 objective responses occur

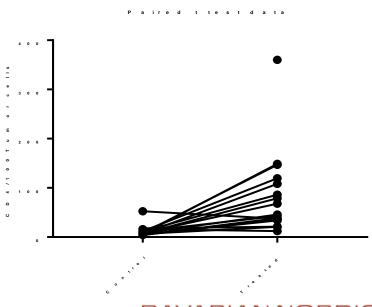
Stage 2

- Enroll additional 13 patients.
- ORR goal = 20% (5/25 patients)

ASCO: KEY TAKEAWAYS

- Early stage patients show an upregulation of cancer specific T cells
 - Effect of PROSTVAC on intra/peritumoral immune infiltrate in patients with localized prostate cancer undergoing radical prostatectomy.
 - ≥ 2X increase in PSA specific TILs in vast majority of patients (See below)
- Safety seen when combining PROSTVAC and nivolumab
 - Combination established as safe and well tolerated
 - NCI will now move to treating men with neoadjuvant Prostate Cancer. (n=17)
 - This will allow investigators the opportunity to see if there is synergy in combining vaccine and checkpoint inhibition, for men with early stage disease.





AT THE FOREFRONT OF RSV VACCINE DEVELOPMENT



Novel Vaccine Design

Encodes 5 distinct targets of RSV to stimulate a broad protective immune response (T-cell and antibody response) mimicking a natural infection of RSV



Competitive Advantages

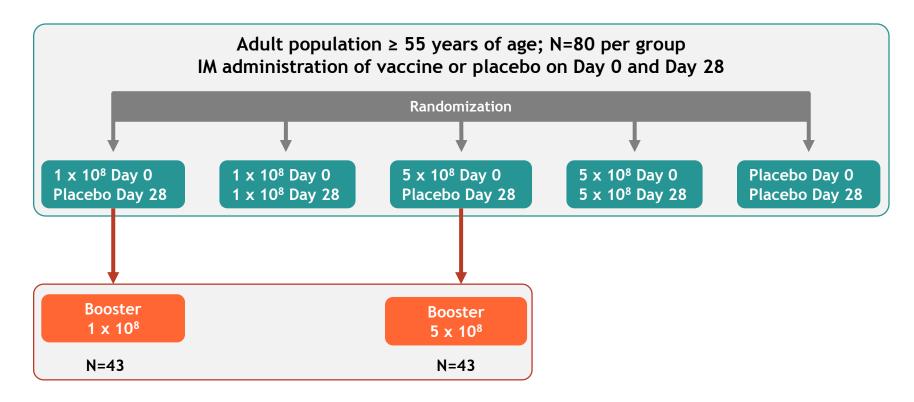
- Induction of a broad T-cell and antibody response against RSV
- Induction of mucosal immunity
- Durable immune response lasting an RSV season
- Based on MVA-BN live virus adjuvant with a favorable safety profile



PHASE 2 BOOSTER STUDY: DATA MID 2018

Key objectives of booster study

- Get clarity on long-term durability of immune response (12 months)
- Evaluate effect of a single booster dose after primary vaccination with a single shot using same doses as in the main study (N=86)



OUR COLLABORATION WITH JANSSEN

A LONG-TERM VALUE DRIVER

4 license agreements in place

- The combination of Janssen's AdVac + MVA-BN has demonstrated robust and sustained immune responses in people
- The synergistic benefit of combining our technology has been key to establishing collaborations in blockbuster indications
- Equity investments have made JNJ a major shareholder with ownership of 5.77%



FREEZE-DRIED IMVAMUNE CONTRACT WITH USG





\$233M bulk

\$100M bulk

\$140M clinical / regulatory support

\$299M

Potential additional IMVAMUNE orders



Bulk vaccine



Construction of fill/finish plant



Freeze-dried IMVAMUNE

FINANCIAL RESULTS AND OUTLOOK

- Financially on target with modest revenues during Q1 as most revenues from IMVAMUNE bulk vaccine will occur in H2
- A total of 350 mDKK will be invoiced for IMVAMUNE in 2018, including RoW contracts
- Other revenue of 150 mDKK relates to already signed R&D contracts

		mDKK		mUSD		
	Q1 2018	FY2018E	Q1 2018	FY 2018		
Revenue	11	500	2	83		
EBIT	(173)	(385)	(29)	(64)		
Cash preparedness	2,355*	1,850	392	308		

Cash preparedness includes cash, cash equivalents, investments in securities and the aggregate amount of undrawn credit lines.

USD/DKK = 6.01

^{*} DKK 110 million deducted by loans related to repo transactions

WE ARE WELL FUNDED

- A large cash flow from secured contracts and potential milestones in the coming years
- Freedom to execute on strategy

	DKK million	USD million	
Cash preparedness	2,400	400	
IMVAMUNE contracts with USG, signed	3,200	540	
Other ongoing contracts	200	30	
Priority Review Voucher, sale	700	120	
Janssen partnership, potential milestone payments	6,000	1,000	
Total	DKK 12.5 billion	~\$2.1billion	

USD/DKK: 6.00

PIPELINEAMBITIOUS AND WELL-BALANCED PORTFOLIO

INDIC ATION

Infectious diseases

Oncology

PRODUCT	INDICATION	PHASE 1	PHASE 2	PHASE 3	PARTNER
IMVAMUNE liquid-frozen 1)	Smallpox			File H2 2018	
IMVAMUNE freeze-dried	Smallpox				
MVA-BN RSV	RSV				
CV301 + pembrolizumab	Lung cancer (NSCLC)				
CV301 + atezolizumab	Bladder cancer		Planned 2018		
CV301 + durvalumab	Colorectal cancer		Planned 2018		
CV301 + nivolumab	Colorectal cancer		Planned 2018		
BN-Brachyury	Chordoma		Planned 2018		
PROSTVAC combinations	Prostate cancer				Bristol-Myers Squibb
MVA-BN Filo + AdVac	Ebola				Janssen 7
MVA-BN Filo + AdVac	Ebola/Marburg				Janssen 7
MVA-BN HPV + AdVac	Chronic HPV infection	Planned 2018			Janssen T
MVA-BN HIV + AdVac	HIV1 Infected	Planned 2018			Janssen)
MVA-BN HBV + AdVac	Hepatitis B infected				Janssen)

¹⁾ Approved in Canada and the European Union (marketed as IMVANEX® in the EU). Phase 3 completed in the U.S.

DDODLICT

ANTICIPATED SELECTED MILESTONES

IMVAMUNE

- Filing of BLA for liquid-frozen IMVAMUNE (H2, 2018)
- Anticipated BLA approval and award of a Priority Review Voucher (2019)
- Initiation of a Phase 3 IMVAMUNE freeze-dried lot consistency study (2019)

RSV

- Results from booster-study (H1, 2018)
- Decide on the feasibility of a human challenge study (H2, 2018)

JANSSEN

- Initiate Phase 1 study of MVA-BN HIV+AdVac (H2, 2018*)
- Initiate Phase 1 study of MVA-BN HPV+AdVac (H2, 2018*)

CV301

- Initiate Phase 2 study in combination with atezolizumab in bladder cancer (mid 2018)
- Initiate Phase 2 study in combination with durvalumab in colorectal cancer (H1, 2018)
- Initiate Phase 2 study in combination with nivolumab in colorectal cancer (H1, 2018)
- Initial Phase 2 results (ORR) from combination with pembrolizumab in NSCLC (H2, 2018)

BRACHYURY

- Results from Phase 1 booster study (H2, 2018)
- Initiate Phase 2 study in Chordoma (H2, 2018)

^{*} Janssen is responsible for the clinical development

Q&A



