

Corporate Presentation

January 2024

Nasdaq: IMNN

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This presentation and any statements made during any presentation or meeting contain forward-looking statements related to Imunon, Inc. ("Imunon") under the safe harbor provisions of Section 21E of the Private Securities Litigation Reform Act of 1995 and are subject to risks and uncertainties that could cause actual results to differ materially from those projected. These statements may be identified by the use of forward-looking words such as "anticipate," "planned," "believe," "forecast," "expected," and "intend," among others. There are many factors that could cause actual events to differ materially from those indicated by such forward-looking statements. Such factors include, among other things, unforeseen changes in the course of research and development activities and in clinical trials; possible changes in cost, timing and progress of development, preclinical studies, regulatory submissions; Imunon's ability to obtain and maintain regulatory approval of any of its product candidates; possible changes in capital structure, future working capital needs and other financial items; changes in approaches to medical treatment; introduction of new products by others; success or failure of our current or future collaboration arrangements, possible acquisitions of other technologies, assets, or businesses; the ability to obtain additional funds for operations; the ability to obtain and maintain intellectual property protection for technologies and product candidates and the ability to operate the business without infringing the intellectual property rights of others; the reliance on third parties to conduct preclinical studies or clinical trials; the rate and degree of market acceptance of any approved product candidates; possible actions by customers, suppliers, potential strategic partners, competitors, and regulatory authorities; compliance with listing standards of The Nasdag Capital Market; and those risks listed under "Risk Factors" as set forth in Imunon's most recent periodic reports filed with the Securities and Exchange Commission, including Imunon's Form 10-K for the year ended December 31, 2022.

While the list of factors presented here is considered representative, no such list should be considered to be a complete statement of all potential risks and uncertainties. Unlisted factors may present significant additional obstacles to the realization of forward-looking statements. Forward-looking statements included herein are made as of the date hereof, and Imunon does not undertake any obligation to update publicly such statements to reflect subsequent events or circumstances except as required by law.

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Developing new medicines that harness the building blocks of life to work in harmony with the body's immune system

- Leveraging innovative non-viral DNA platform with proprietary synthetic delivery systems and multiple potential indications
- Clinical focus on immuno-oncology and infectious diseases
- Two Phase II trials underway with IMNN-001 (formerly GEN-1) (IL-12 immunotherapy) for the peri-operative treatment of advanced ovarian cancer; Fast Track and Orphan Drug designations received; to address a multi-billion dollar market
- Development of new modalities in cancer vaccines
- PlaCCine modality in prophylactic vaccines showed strong evidence of immunogenicity and durability of protection in a SARS-CoV-2 proof-of-concept model
- Strong balance sheet supports strategy into Q4-2024 and robust news flow of value-creating activities in pursuit of building a fully integrated biotech company

Experienced Management Team



Corinne Le Goff, PharmD MBA President, CEO and Director





sanofi

Merck





Khursheed Anwer, PhD MBA **Executive Vice President and** Chief Scientific Officer







Jeffrey W. Church Executive Vice President, CFO & Corporate Secretary











Sebastien Hazard, MD, MBA **Executive Vice President and** Chief Medical Officer

Bicycle









IMUNON Strategic Priorities

Thoughtful four-pronged business strategy, capitalizing on the platform synergies across modalities

- IMMUNO-ONCOLOGY
- 2 PROPHYLACTIC VACCINES
- 3 VERTICAL INTEGRATION
- COLLABORATIONS

An asset development opportunity, in high disease burden cancers where an immunological approach through cytokine expression or cancer vaccines can improve outcomes.

A partnership opportunity, with pharmaceutical companies, institutions and government agencies to develop vaccines for pathogens of interest.

Of the core elements of our business, to control costs, deliverables and IP, realized through in-house early development scale of plasmids, synthetic delivery systems and investments in key partners.

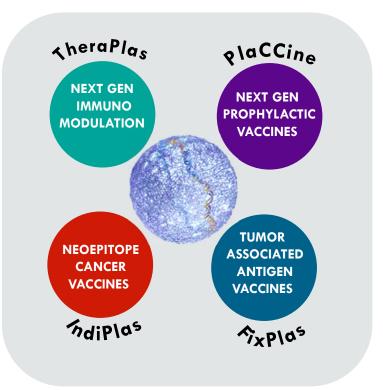
The bedrock of our business model, to get access to new technologies or expertise, to enhance and de-risk our R&D efforts and generate new IP, to obtain non-dilutive funding.

Our Disruptive Non-Viral DNA Technology Toolkit in Immuno-Oncology and Infectious Diseases

Proprietary Synthetic Delivery and Facilitating System that promotes DNA Protection, Uptake, Bioavailability and Enhanced Antigen Expression

Gene Therapy

Personalized Cancer Vaccine



Prophylactic Vaccine

Off-the-shelf Cancer Vaccine

IMUNON's Pipeline of DNA-based Transformative Medicines

Modality	Program	Indication(s)	Discovery	IND enabling	Phase 1	Phase 2	Partnerships
TheraPlas	IL-12 (OVATION) Intraperitoneal (IP)	Advanced Ovarian, Fallopian Tube or Primary Peritoneal Cancer	IMNN-001 (formerly GEN-	1)		
	IL-12 IP in combination with bevacizumab	Advanced Ovarian, Fallopian Tube or Primary Peritoneal Cancer	IMNN-001 -	+ bevacizumab			BREAK THROUGH CANCER #RadicalCollaboration
PlaCCine	Multicistronic SARS- CoV-2. Clinical Proof- of-Concept	COVID-19 Seasonal Vaccine	IMNN-101				
	Prophylactic Vaccine	Lassa Virus Vaccine	IMNN-102				THE WISTAR INSTITUTE National Institute of Alleray and Infectious Diseases
FixPlas	Cancer Therapeutic Vaccine	Trp2 /NYESO-1 Tumor Associated Antigen in Melanoma	IMNN-201				
IndiPlas	Individualized Neoantigen Cancer Vaccines		IP-Y				

PAGE 7

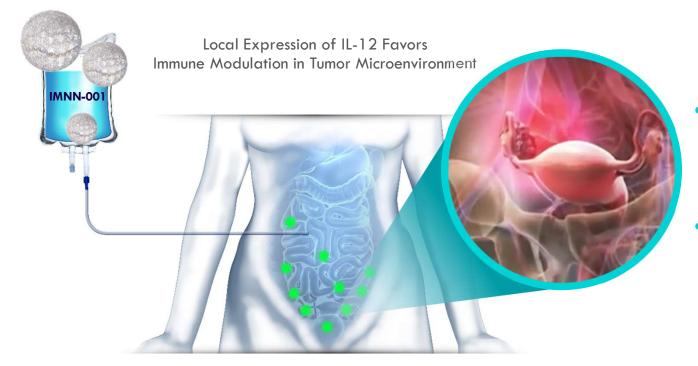
IMNN-001 (IL-12) Gene Therapy has the Potential for Breaking the Status Quo with Immunotherapy in Ovarian Cancer

- IMNN-001 tackles directly the Tumor Micro-Environment (TME) at the neo-adjuvant stage, when it matters the most
- The clinical data generated (OVATION-1 and OVATION-2) represent a robust proof of concept for monotherapy
- Synergies are expected from the combinations with VEGF-inhibitors and checkpoint inhibitors, based on scientific and preclinical data
- With a recent guidance on Minimal Residual Disease endpoints, FDA opens the door to accelerated approval in neoadjuvant
- IMUNON Strategy: Build an accelerated path to market from the analysis of OVATION-2 data and partnership with the FDA.



IMNN-001 Targets the Micro-Environment of Ovarian Cancer

Local production of safe and durable levels of a powerful anti-cancer immune agent, IL-12



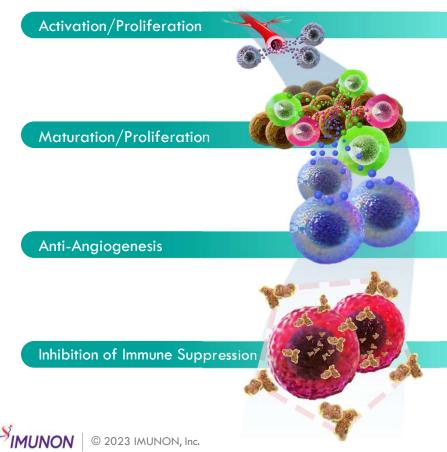
Intracavity infusion of IMNN-001 has demonstrated durable and local expression of IL-12 in the peritoneum

No supraphysiological increases in IL-12 commonly associated with the bolus rIL-12 minimizes excessive systemic exposure of IL-12, thereby giving a favorable safety profile to IMNN-001

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IL-12: A Powerful Immune-Modulating Agent

Interleukin-12 Can Induce Anti-cancer Immunity Through Multiple Mechanisms



Stimulates the proliferation of CD-8 positive T-cells and natural killer (NK) cells and their cytotoxic activity against the tumor

Shifts the differentiation of naive CD-4 positive T-cells toward a TH-1 phenotype, further enhancing the immune response – Turns "cold" tumors into "hot" tumors

Promotes cellular production of the potent immune mediator IFN-V and TNF-a. IFN-V promotes the expression of antiangiogenic molecules, halting the growth of new blood vessels that supply oxygen to the tumor

IL-12 inhibits regulatory T-cells that suppress immune responses by "hiding" the tumor from the body's immune system

First Target: Ovarian Cancer

Epithelial ovarian cancer (EOC) is insidious and usually diagnosed at an advanced stage. Though EOC initially responds to treatment, the recurrence rate is high. Recent treatments delay progression but overall survival has not improved. Hence there is a need for effective therapy for patients with EOC.



20,000 cases diagnosed each year in U.S. 13,000 deaths

Standard of care has remained stagnant for decades

80% diagnosed in late stage (III/IV)

50% will die within 5 years of diagnosis

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225,000 cases per year Globally > 100,000 Patients in the U.S. alone

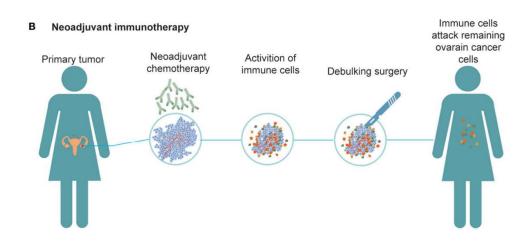
5th leading cause of cancer mortality in women

IMNN-001 has the potential to revolutionize today's standard of care



Ovarian Cancer at the Neoadjuvant Stage is the Optimal Setting for Immunotherapy and IMNN-001

IMNN-001 Can Solve a Double Status Quo: Absence of new drugs in neo-adjuvant and difficulties for immunotherapies to tackle Ovarian Cancer



Source: Front. Immunol.. 06 October 2020 Sec. Cancer Immunity and Immunotherapy Volume 11 - 2020

https://doi.org/10.3389/fimmu.2020.577869

- 50% of 1st line advanced Ovarian Cancer need neo-adjuvant therapy before debulking
- The Omental Fat Band (OFB), location of an important part of the anti-tumoral immune system, is removed by debulking surgery
- In the neoadjuvant setting, IMNN-001 can harness the OFB to display an anti-tumorigenic microenvironment
- By directly accessing the intra-peritoneal tumor micro-environment and local immune system, IP administered IMNN-001 is well positioned to offer clinical value to Ovarian Cancer patients at an early stage of their disease

OVATION 1 Study in Neoadjuvant Ovarian Cancer

IL-12 and IFN-γ production, Clinical Proof of Concept Leading to Fast Track Designation

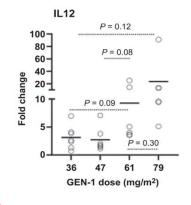
Table 3. Tumor response, surgical outcome, pathologic response, and chemotherapy response score with NACT/GEN-1 escalating doses.

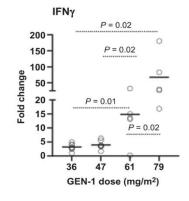
Radiographic response		Total (n)	Cohort 1 36 mg/m ²	Cohort 2 47 mg/m ²	Cohort 3 61 mg/m ²	Cohort 4 79 mg/m ²
Tumor response	CR	2	1	0	0	1
	PR	10	0	3	3	4
	SD	2	2	0	0	0
Objective response rate			67	7%	10	0%
Surgical outcome	R0	9	2	0	2	5
	R1	3	1	2	0	0
	R2	2	0	1	1	0
RO resection ra	te		33	3%	8	8%
Pathologic response	cPR	1	1	0	0	0
	Micro	8	1	2	1	4
	Macro	5	1	1	2	1
cPR/micro rate	e		60	0%	6	3%
Chemotherapy	CRS 3	5	1	0	2	2
Response	CRS 2	5	2	1	0	2
Score	CRS 1	4	0	2	1	1
CRS 3 rate			17	1%	5	0%

Historic Clinical Trial External Control Arm Provides Actionable GEN-1 Efficacy Estimate Before a Randomized Trial

Xiang Yin, PhD1; Ruthanna Davi, PhD1; Elizabeth B. Lamont, MD, MS1; Premal H. Thaker, MD, MS2; William H. Bradley, MD3; Charles A. Leath, III, MD, MSPH1; Kathleen M. Moore, MD3.6; Khursheed Anwer, PhD, MBA7; Lauren Musso, BS7; and Nicholas Borys, MD7

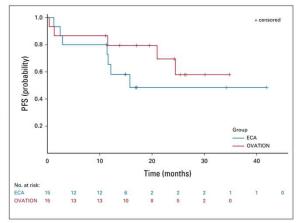
RESULTS Fifteen OVATION-1 patients (15 of 18, 83%) were matched to 15 (37%, 15 of 41) Medidata historical trial control patients. Matching attenuated preexisting differences in attributes between the groups. The median progression-free survival time was not reached by the OVATION-1 group and was 15.8 months (interquartile range, 11.40 months to nonestimable) for the ECA. The hazard of progression was 0.53 (95% CI, 0.16 to 1.73), favoring GEN-1 patients. Compared with ECA patients, OVATION-1 patients had more nausea, fatigue, chills, and infusion-related reactions.





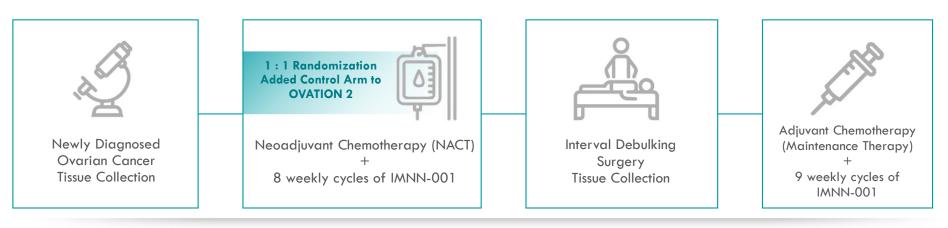
Potential dose dependent efficacy supported by cytokine responses

FIG 3. PFS of matched OVATION-1 and historical clinical trial ECA patients (n = 30). Intent-to-treat product limit PFS time estimates of patients with ovarian cancer after first-line neoadjuvant treatment with either combination intrapentoneal GEN-1 and systemic chemotherapy therapy (OVATION-1 patients) or systemic chemotherapy therapy alone (ECA patients). ECA, external control arm; PFS, progression-free survival.



IMNN-001: OVATION 2 Ovarian Cancer Study

To Determine Efficacy and Biological Activity With NAC in Stage III/IV Patients



Ovarian Cancer Patients (FIGO IIIC & IV)

- 110 patients. Enrollment completed
- 75% of expected primary endpoint data collected
- ITT population contains mix group of BRCA +/- subjects (BRCA+ have much longer time to PFS due to PARPi)

Primary Endpoint

• Progression Free Survival (PFS). After 80 PFS events or at least 16 months, whichever is longer

Secondary Endpoints

 Clinical Response (ORR), Pathological Response, Surgical Resection Scores (RO, R1, R2), Biological Response, Safety

Interim OVATION 2 Data Suggest That IMNN-001 is Safe and Active

ITT population: PFS Benefit (70 events)

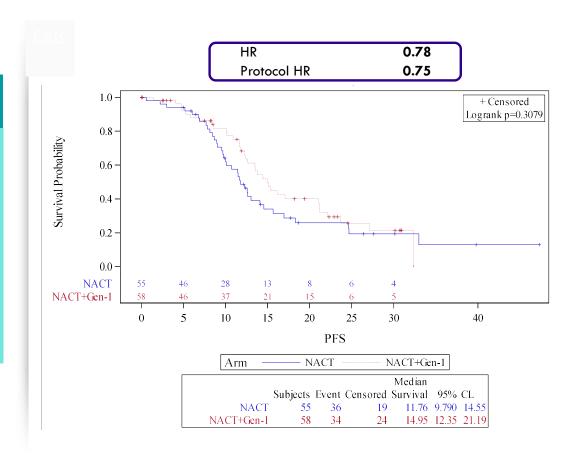
ITT :	nonu	lation
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Interval Debulking Surgery **RO** Resection Rate

Median Time to Progression 70 events

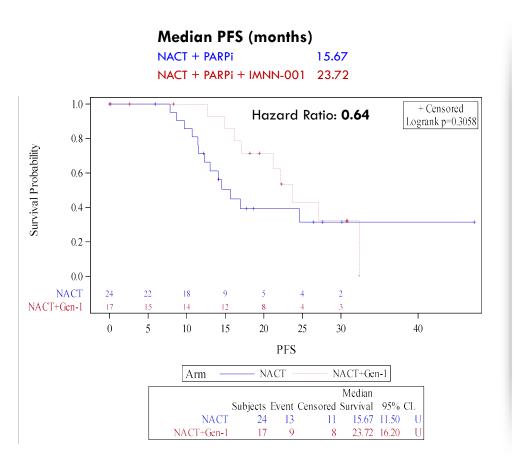
Chemotherapy Response Score of CRS3

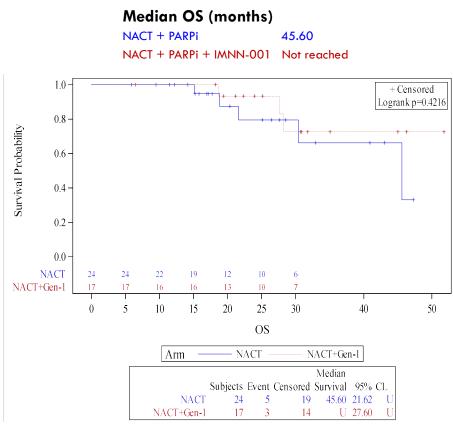
NACT ONLY	NACT + IMNN-001
52%	65%
11.8 mos.	15 mos.
14%	30%





Interim OVATION 2 PFS and OS Events: PARPi Population +/- IMNN-001







PAGE

With recent guidance, FDA opens the door to drug approval in neoadjuvant indications

Use of Circulating Tumor DNA for Early-Stage Solid Tumor Drug Development Guidance for Industry May 2022 Clinical/Medical

ctDNA as an Early Endpoint in Clinical Trials:

Although not currently validated for use, changes in ctDNA in response to a drug may have the potential to be used as an early endpoint to support drug approval in the early-stage cancer setting.

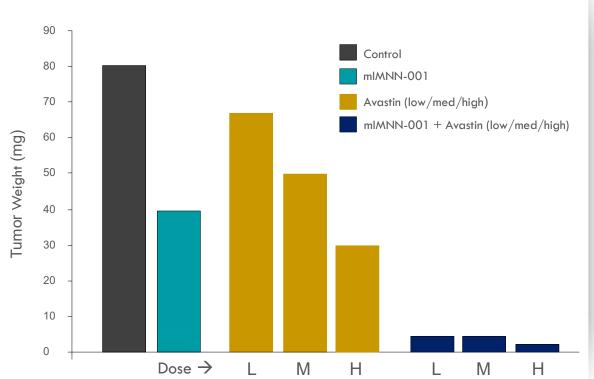
Imunon's Development team has firsthand experience of interacting with the FDA on accelerated approval pathways under the new "one-trial design" approach as well as with the use of ctDNA as CDx for registration trial.





Synergistic Anti-Angiogenic Effect of IMNN-001 + Avastin® in Ovarian Cancer





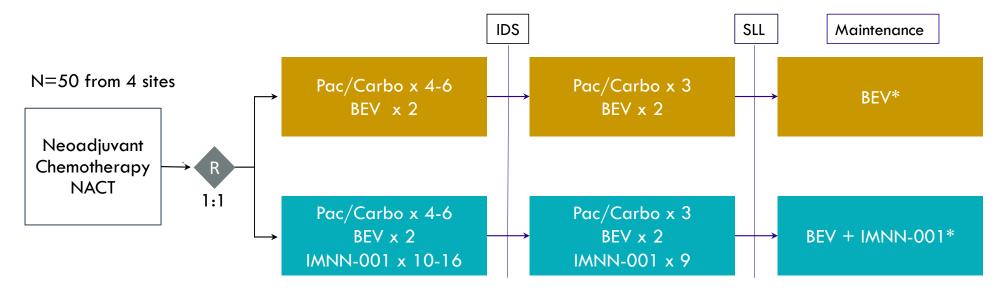
Key Rationale for Combination of IMNN-001 with Avastin®

- Synergistic efficacy potential of VEGF level reduction by Avastin and VEGF production inhibition by IMNN-001
- Efficacy improvement of low dose Avastin by IMNN-001 combination improves its therapeutic index and cost



New Phase 2 Study in Combination with bevacizumab

Avastin® (BEV) + IMNN-001 Study Design in Advanced Epithelial Ovarian Cancer



Primary Endpoint = Rate of Minimal Residual Disease (MRD) assessed at Second Look Laparotomy (SLL)

Secondary = Progression-Free Survival (PFS)



Combinations with Checkpoint Inhibitors could be Synergistic, Offering an Opportunity to bring Immunotherapies to Ovarian Cancer Patients

ONCOIMMUNOLOGY
2023, VOL. 12, NO. 1, 2198185
https://doi.org/10.1080/2162402X.2023.2198185

ORIGINAL RESEARCH

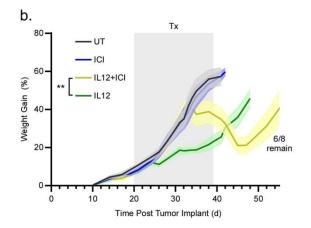
OPEN ACCESS

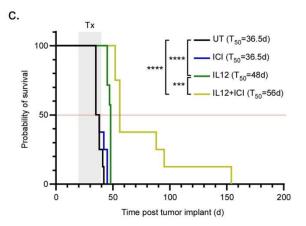
Check for updates

Immunotherapy with IL12 and PD1/CTLA4 inhibition is effective in advanced ovarian cancer and associates with reversal of myeloid cell-induced immunosuppression

Paul G. Pavicic Jr.^a, Patricia A. Rayman^a, Shadi Swaidani^a, Amit Rupani^a, Vladimir Makarov^a, Charles S. Tannenbaum^b, Robert P. Edwards^c, Anda M. Vlad^c, C. Marcela Diaz-Montero^a, and Haider Mahdi^{c,d,e,f}#

Our findings support a clinical trial to investigate the efficacy of IL12 combined with dual-ICI for patients with ovarian cancer. This approach is attractive especially with recent advances in novel gene delivery platforms of IL12 like plasmids, mRNA based or viral vectors. 42,43





Imunon will start exploring partnerships to develop and seek accelerated approval for an optimized immunotherapy regimen in peri-operative Ovarian Cancer.

FixPlas: Cancer Vaccines

Monovalent & Bivalent Vaccines Targeting Tumor-Associated Antigens

DNA Vaccines



Strong Cellular Responses

(Advantages over protein or mRNA vaccines)



Well Suited for Cancer Therapy

Proof of Concept (PoC) Studies

- Mouse Melanoma
- Trp2 & NYESO1 Tumor Antigens
- Formulated plasmid with novel delivery agent and adjuvant
- Initial PoC studies completed
 - Vaccination followed by tumor challenge
 - Monovalent (Trp2) and bivalent (Trp2-NYESO1) vaccines
- Ongoing studies (to be completed in 2H 2023)
 - Tumor challenge followed by vaccination
 - Monovalent (Trp2) and bivalent (Trp2-NYESO1) vaccines
 - Endpoints: Tumor growth, survival, MOA

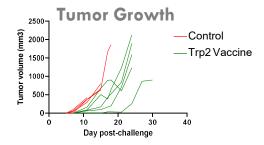




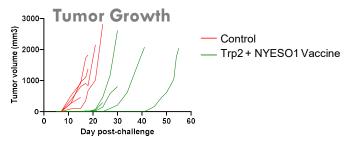
FixPlas Vaccination Followed by Tumor Challenge Delayed Tumor Growth and Improved Survival — Prophylactic Vaccine

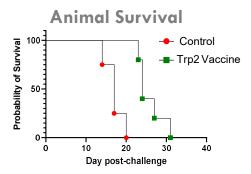
Mouse Melanoma Model Expressing Trp2 and NYESO1 Antigens

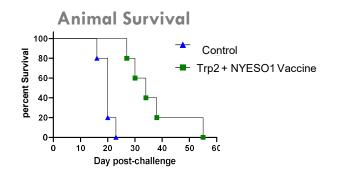
Monovalent Trp2 Vaccine

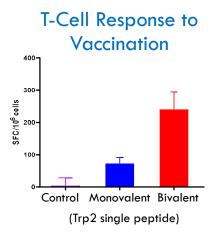


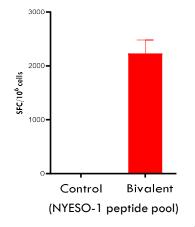
Bivalent Trp2-NYESO1 Vaccine







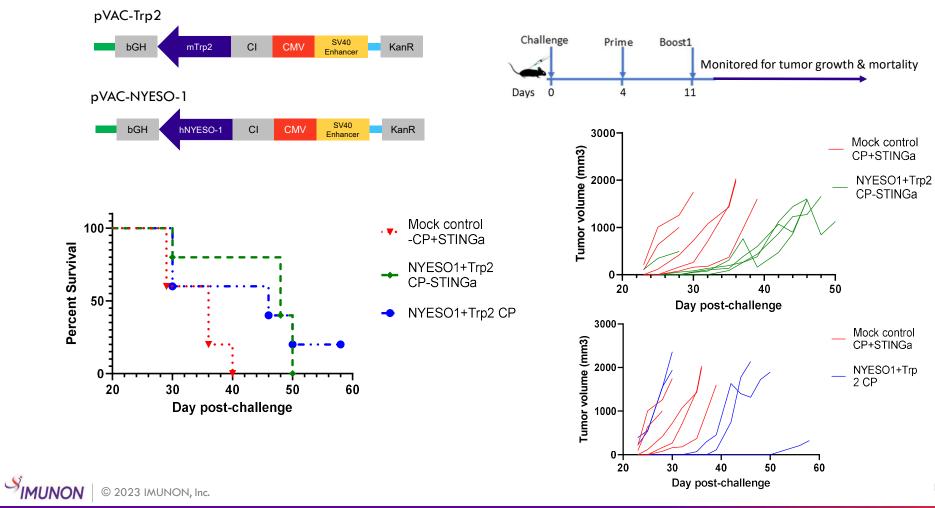




22



Status: Immunization with FixPlas Reduced Tumor Growth and Improved Survival - Therapeutic Vaccine





Placeine: The Next Generation of Prophylactic Vaccines



PAGE 24

IMUNON's Novel DNA Vaccine Platform is Addressing These Challenges

Relies on Synthetic Delivery Systems: Non-viral – Non-device – Non-LNP





Speed



Flexible manufacturing

Durable antigen expression

Induces robust immunological response

Non-viral DNA is a platform

Ability to go from sequence to the clinic to approved products in record time

PlaCCine

Simple handling & distribution

Stability and long shelf-life at workable temperatures -**Greater Capital Efficiency**

Pursuing More Potent and Durable Immunity



Over 90% Protection From Live Viral Challenge

Induced Immune Response Capable of Suppressing Viral Replication



Comparable Protection to mRNA Vaccine in Monkeys

Clearance is Sustainable with Efficiency >99% by PCR assay



PlaCCine Induces Robust Immune Response after a Single Injection

Wistar Institute Collaboration



PlaCCine Vaccines Provide Durable Cellular Response

>14-months Durability in Mice in a two-dose vaccination design

Goal is to develop vaccines through early clinical work to position the asset for partnership, collaboration or acquisition

More than 80 Pathogenic Viruses Discovered since 1980

Less than 4% have a vaccine commercially available

Before 1980

Zika (1952)

VZV (1954)

RSV (1956)

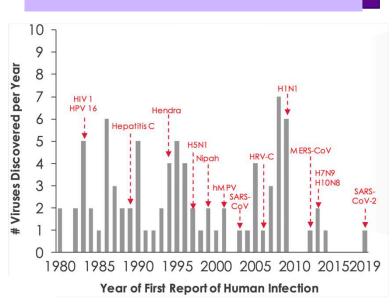
EBV (1964)

CMV (1956-1957)

Select viruses:

- Yellow fever (1901)
- Rubella (1941)
- Dengue (1943)
- PIV3 (1950s)
- Chikungunya (1952)
- Hepatitis B (1965)
- Marburg (1967)
- Lassa (1969)
- Ebola (1976)

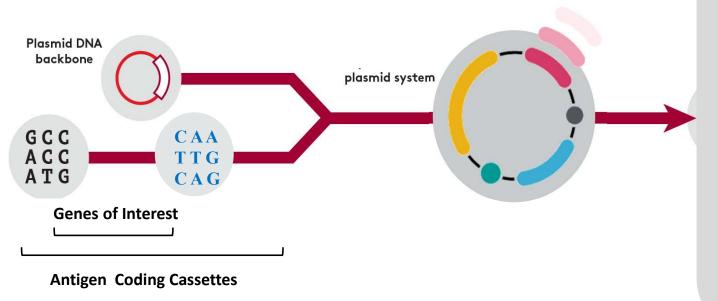
1980 - 2019



Sources: Institute of Medicine (US) Forum on Microbial Threats(2009); Medscape Medical News(2008); Lederburg, J. Emerging Infectious Diseases from the Global to the Local Perspective: A Summary of a Workshop of the Forum on Emerging Infections(2001); National Institute of Health(US)Biological Sciences Curriculum Study(2007);Holshue,M. et al NEJM (2020);Bush,L. Emerging...andRe-emerging Infectious Diseases(2015);Gibbs,AJ.Virology(2009); CDC Zika Overview;CDC Ebola About;Plotkin,S.A. Clinical Infectious Diseases(2006); Woolhouse, M.et al. PhilTransRSoc(2012); WHO H7N9 China Update(2018); Tapparel, C. et al. Virology(2013); Hepatitis B Foundation. History Page; Ho, M. Med Microbiol Immunol. (2008); Nature. Dengue Viruses Page; Brauberger, K. et al. Viruses(2012);FDA approved vaccine list; CDC RSV Overview; Hendrickson,K.J. Clinical Microbiology Reviews(2003); Andersson,J.Herpes(2000);WHO Chikungunya Overview;CDC Varicella Overview;XuyY.et al. Infect Genet Evol.(2015);CDC Lassa Fever Overview

IMNN-101: "Plug & Play" Design Enables Rapid Response to Changing Pathogen and Multiplexing

Seasonal COVID-19 Booster, adapted for the latest strain



- ☐ January 2023 FDA proposed annual COVID booster - selected Omicron XBB 1.5 strain
- Proof of Concept Against Multiple Pathogens
 - ☐ Flu
 - ☐ LASSA
 - Marburg
 - Monkeypox
- ☐ PlaCCine platform delivers flexible design & rapid vaccine manufacturing

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PlaCCine Stability at Workable Temperatures is a Clear Commercial Advantage over mRNA Vaccines

4°C Storage



At least... 1 YEAR **Room Temperature Storage**



At least... 1 MONTH 37°C Storage



At least... 2 WEEKS PBS

Endpoint Titer • Day 7 Day 14

Simplified and Cheaper Supply Chain Around the World



Phase 1/2 to Start in H1 2024 to Explore the Immunogenicity of a COVID-19 Seasonal Booster - IMNN-101

Phase 1 - Dose Finding



N=8

Dose 2

N=8

Dose 3

N=8

Phase 2 - Proof of Concept

RP2D

N=50

RP2D: Recommended Phase 2 Dose

Study Objectives:

- Reactogenicity
- **Humoral Immunogenicity** (intensity, durability)
- Cellular Immunogenicity
- Dose finding and Proof of Concept

Development Strategy:

If initial results support potency and tolerability, explore partnerships and consider multiplexing approaches beyond **COVID**



Summary of Development Programs

IMNN-001 offers a novel way to harness the powerful immunological properties of IL-12: the "Master Switch" to the body's immune system.



IMNN-101 has demonstrated that our multicistronic formulated plasmid DNA platform can produce a robust immune response.





- Robust biologic and clinical proof of concept in OVATION 1.
- Promising OVATION 2 interim, with potential for clinical benefit in monotherapy and combinations.
- Focus on Peri-operative treatment of Ovarian Cancer with the potential to break the Status Quo of immunotherapy in this indication
- Plans to develop combinations, including new phase 2 with **VEGF** inhibitor in partnership with the Break Through **Cancer Foundation**

- Evidence of IgG, neutralizing antibody and T-cell responses and protection against live virus challenge
- Activity demonstrated with both single & bicistronic vectors
- Evidence of greater than 12-month immunological durability
- Evidence of 12-month stability at 4°C (ongoing study)
- Non-Human Primate study demonstrates initial POC
- IMNN-101: Seasonal COVID

- **Evidence of delayed tumor growth** and improved survival
- Potential for prophylactic and therapeutic approaches
- Evidence of robust cellular immunity response, notably CD4.

PAGE

IMUNON Phase 1 cGMP Manufacturing Facility



Gowning Room



Upstream Processing (USP) Room



Downstream Processing (DSP) Room



Facilitating Agent Mfg. Room



Filling Room w/ISO-5 Laminar Flow Hood

PlaCCine

Facilitating Agent



- Internal capability to produce plasmid DNA and Facilitating Agent to support Phase 1 Studies per the 2008 FDA Guidance "cGMP for Phase 1 Investigational Drugs"
- ✓ 1,000 ft² of space dedicated to GMP manufacturing
- ✓ Supported by adjacent GMP Quality Control Laboratory

To date, multiple cGMP lots of vaccine plasmids of high yield & purity have been manufactured successfully

PAGE

Financial Summary & Upcoming Key Milestones:

Robust Flow of Value Creating Activities

Cash & Investments

\$19.5M + \$1.8M in future NJ NOL sales

As of September 30, 2023



Shares Outstanding

9.4M



Estimated Operating Expenses per quarter

\$4.25M

IMNN-001 OVATION 2 Topline Results

IMNN-101 SARS-CoV-2 Booster IND & Start of Phase 1/2

> **IMNN-201 Pre-IND**

> > 1**H** 2024

IMNN-001 OVATION 2 Late stage development IMNN-001+bevacizumab

IMNN-101 Phase 1 Immunogenicity Results

Interim Results

IMNN-201 IND filing

> **2H** 2024

Corporate Information





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