Developing medicines harnessing the capability of DNA to power body's immune system

IMUNON

Investor Presentation

Nasdaq: IMNN

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Investment Thesis

Funding IMNN-001 IL-12 Registrational Study for 1st line Ovarian Cancer

- **First-in-Class Immunotherapy with proven safety profile and unprecedented efficacy data in a randomized, well controlled Phase 2 in newly diagnosed ovarian cancer population**
- **Data driven registrational study design based on strong evidence**
- **Ovarian cancer represents a multi billion-dollar unmet medical need**
  - IMNN-001 has been granted Fast Track by the FDA
  - Orphan status has been established in the U.S. and EU
- **Imunon has established a cGMP-compliant capability to manufacture investigative product for the registrational study. Eventually, a footprint for commercial launch.**
  - Costs support robust gross margins
  - FDA alignment for CMC strategy, including potency assay
- **Registrational study initiated Q1 2025**
  - Newly diagnosed, advanced ovarian cancer, eligible for to NACT treatment, 500 patient trial
  - Definitive primary endpoint is overall survival
  - Design includes 2 planned interim analyses for early stopping for success, BLA filing for full approval

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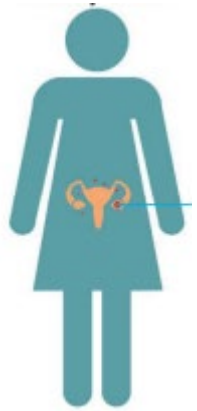
Background

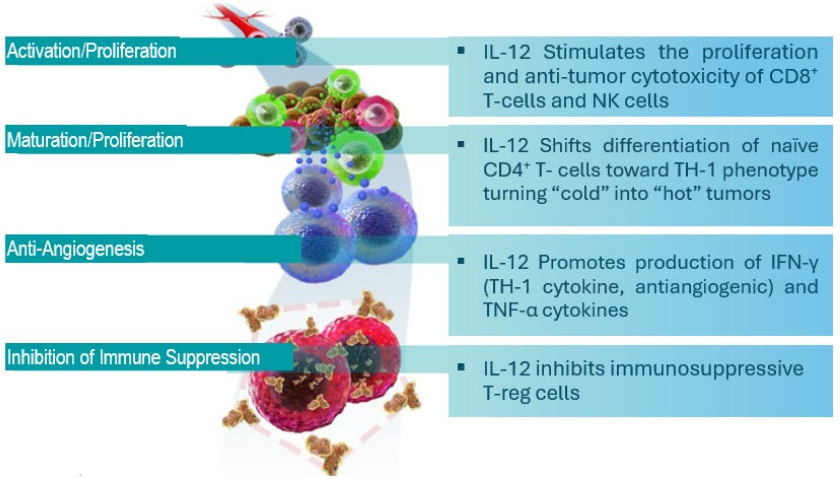
Immune approaches in EOC

- Immunotherapy is considered an attractive approach for the treatment of EOC due to a multifaceted, highly immunosuppressive (“cold”) tumor environment[1]
- The addition to ICIs in first or later lines EOC modestly improved ORR, but not OS (KEYNOTE, JAVELIN, KEYLYNK, DUO-O studies)[2-5]



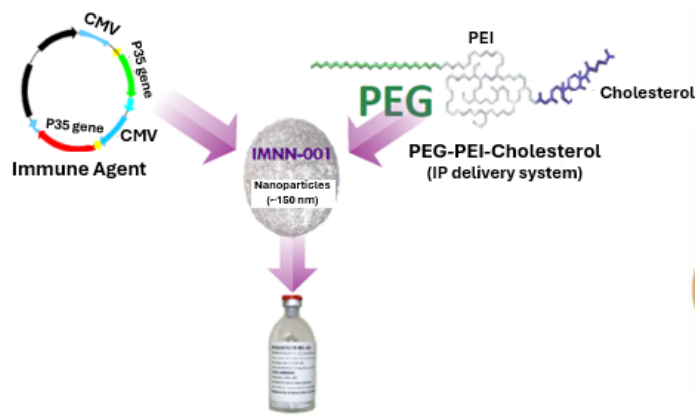
IMNN-001: MoA

- IMNN-001 is a novel IL-12 DNA-mediated therapy investigational product
- IL-12 is a pleiotropic immuno-stimulatory cytokine with activity on both the innate and adaptive immune systems
- IL-12 converts the tumor microenvironment from ”cold” to ”hot”



IMNN-001: Local IP delivery

- IMNN-001 is an IL-12 DNA-based plasmid encased in a lipopolymer nanoparticle delivery system enabling efficient cell transfection and durable, local secretion of the IL-12 protein at the tumor site[6].
- OVATION-1 Ph1 study demonstrated IP IMNN-001 delivery to be safe[7,8], avoiding the systemic toxicities from recombinant IL-12 when administered IV



EOC: Epithelial ovarian cancer; ICIs: Immune checkpoint inhibitors; MoA: Mechanism of action; IL-12: Interleukine-12; IFN: Interferon; TNF: Tumor necrosis factor; T-reg: Regulatory T cells; CMV: Cytomegalovirus; PEG: Polyethyleneglycol; PEI: Polyethyleneimine; IP: Investigational product

(1) Blanc-Durand, Front Immunol, 2023 (2) Matulonis et al., Ann Oncol, 2019 (3) Pujade-Lorraine et al., Lancet Oncol, 2021 (3) Powell et al., Gynecol Oncol, 2025 (4) GSK Press Release, 2024 (5) Harter et al., Gynecol Oncol, 2025 V190 Supp1 (6) Answer et.al, Gene Ther, 2020 (7) Alvarez et al., Gynecol Oncol 2014 (8) Thaker et al., Clin Cancer Res, 2021

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IL-12 Immunotherapy: Renewing the Elusive Promise for Ovarian Cancer Survival

Ovarian Cancer is an immunosuppressive cancer and IL-12 is one of the most powerful anti-tumor cytokines.

IMNN-001 approached it differently

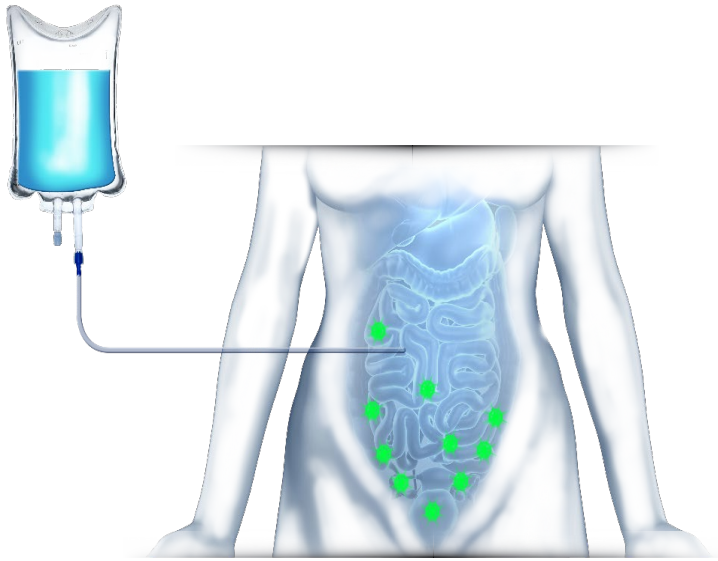
Over the last 25 years there have been many challenges based on systemically dosing recombinant IL-12.

Innovative IMNN-001 approach with local IP administration

Systemic application have resulted in dose limiting toxicities and an inability to dose-escalate and reach therapeutic concentrations at the tumor site.

Route of Administration well established, widely accepted

Gynecologic oncologists have extensive historical experience with IP chemotherapy.



- 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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Product Pipeline of DNA-based Transformative Medicines

Platform	Delivery	Program	Indication(s)	Discovery	IND enabling	Phase 1	Phase 2	Phase 3	Partner
TheraPlas	IP	**IL-12 (OVATION 3)**	Newly Diagnosed Adv. Ovarian Cancer	IMNN-001 *enrolling*					BREAK THROUGH CANCER #RadicalCollaboration
		IL-12 in combination with **Avastin***	Newly Diagnosed Adv. Ovarian Cancer	IMNN-001 *enrolling*					
		IL-12 (OVATION 2)	Newly Diagnosed Adv. Ovarian Cancer	IMNN-001 *complete*					
		IL-12 in combination with **Immune checkpoint Inhibitors**	Newly Diagnosed Adv. Ovarian Cancer	IMNN-001					
		IL-12	Colorectal Cancer	IMNN-001					
		IL-12	Pancreatic Cancer	IMNN-001					
	Intra-tumoral	**IL-12**	Glioblastoma	IMNN-001					

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Great Unmet Need: Patient Outcomes and Frontline Standard of Care Unchanged for 30 years

Recurrence Rates are High and Survival Rates are Low

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 new cases diagnosed each year in US, **13,000** deaths

300,000 new cases diagnosed worldwide

80% diagnosed in late stage (III/IV)

70% recurrence rate within 2-5 years after initial treatment

>60% will die within 5 years of diagnosis

IMNN-001, Imunon's novel IL-12 immunotherapy, has the potential to be first-in-class IL-12 Immunotherapy and provide a break-through in today's frontline standard of care

Sources: Cancer Statistics, American Cancer Society; Globocan; SEER database. CDC

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IMNN-001: A Potential Breakthrough in Newly Diagnosed Ovarian Cancer

No other frontline ovarian cancer trial has shown an OS improvement; IMNN-001 has a highly favorable benefit/risk profile

IMNN-001 may be the 1st immuno-therapy for ovarian cancer, with the potential to transform the standard of care and deliver substantial return on investment

Large randomized Phase 2 OVATION-2: 14.7-month OS improvement by IMNN-001 over standard of care, 95%CI (-3.8, 33.3), 24-month OS improvement in patients treated with PARPi

Phase 3 OVATION-3 Study: FDA-approved registrational trial enrolling, treatment with IMUNON-manufactured API

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IMNN-001 Continues to Have a Highly Favorable Benefit/Risk Profile Through Phase 2

OVATION 2, Phase 2: key safety observations

- No systemic dose limiting toxicities associated with IV administration of IL-12 were observed
- Cytokine release syndrome (CRS) did not occur with IMNN-001 treatment
- No elevation of immune related A/E
- Most common treatment-emergent adverse events:
  - ✓ Abdominal pain, nausea, vomiting
  - ✓ Significant improvement in control of abdominal pain when an analgesic regimen was instituted

MRD trial safety observations:

- Favorable benefit/risk profile further strengthened by MRD trial
- Patients successfully treated with IMNN-001 maintenance therapy, and patients were safely treated with IMNN-001 in combination with Bevacizumab

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IMNN-001: Demonstrating the Ability to Fundamentally Alter the Tumor Microenvironment

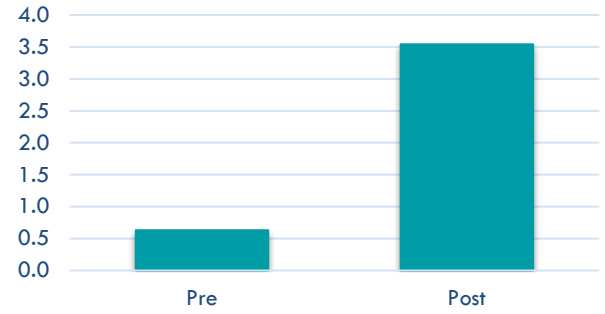
Checkpoint Inhibitors (ICIs) have been unsuccessful in impacting overall survival; ICIs cannot target a "cold tumor"

IMNN-001 Works Differently

- A "cold tumor" is immunologically suppressed; this microenvironment contains cells which are known to dampen the immune response.
- IMNN-001 remodels this complex immune environment, increasing numbers of favorable immune cells from both the innate and adaptive immune systems.
- An immunologically active environment results in an improved tumor response to IMNN-001 immunotherapy.

Decrease in Immunosuppressive Biomarkers in Tumor

Increase in CD8+/CD4+ in Tumor



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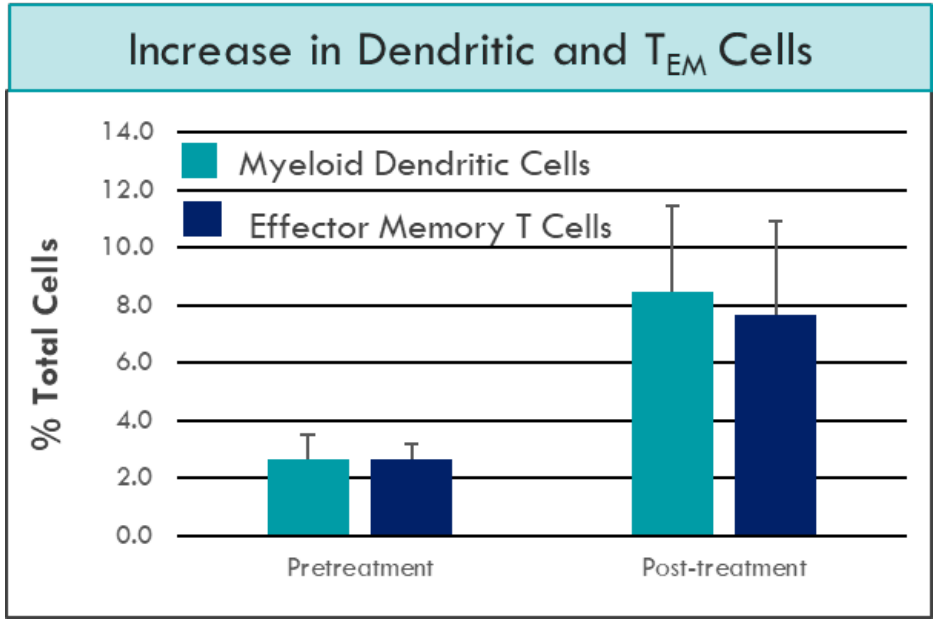
Thaker PH, Bradley WH, Leath CA III, et al. GEN-1 in Combination with Neoadjuvant Chemotherapy for Patients with Advanced Epithelial Ovarian Cancer: A Phase I Dose-escalation Study. Clin Cancer Res. 2021;27(20):5536-5545.

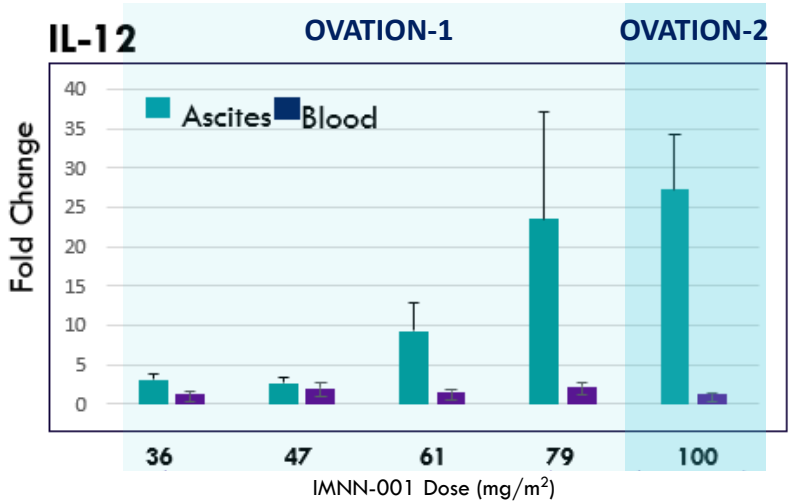
IMNN-001 Has a Broad Impact on the Tumor Microenvironment

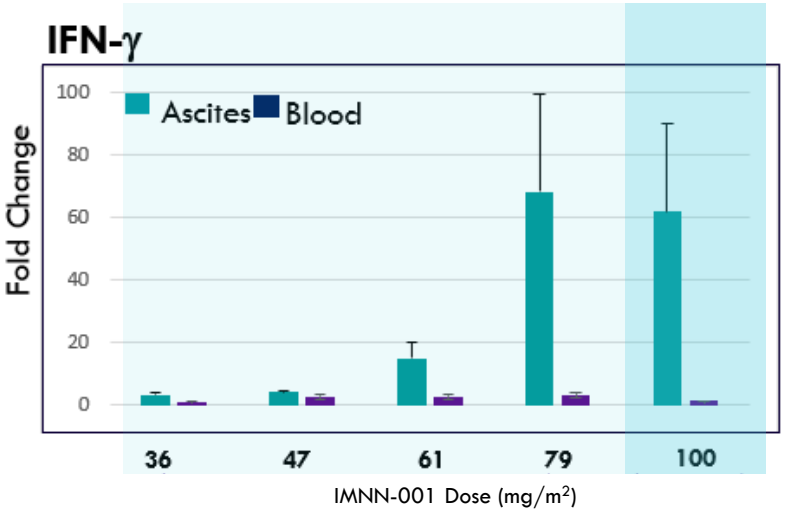
Translational Data Sampling Confirms 100 mg/m² as the Phase 3 dose

- Increases in cytokine levels at tumor site show IMNN-001 targeted local activity
- Low cytokine blood levels underpin IMNN-001 safety profile
- Increase in anti-cancer dendritic cells & effector memory T-cells demonstrate activation of the cellular immune system



IMNN-001 dose-dependent and local selective expression of IL-12 and IFN-γ levels in patients' samples





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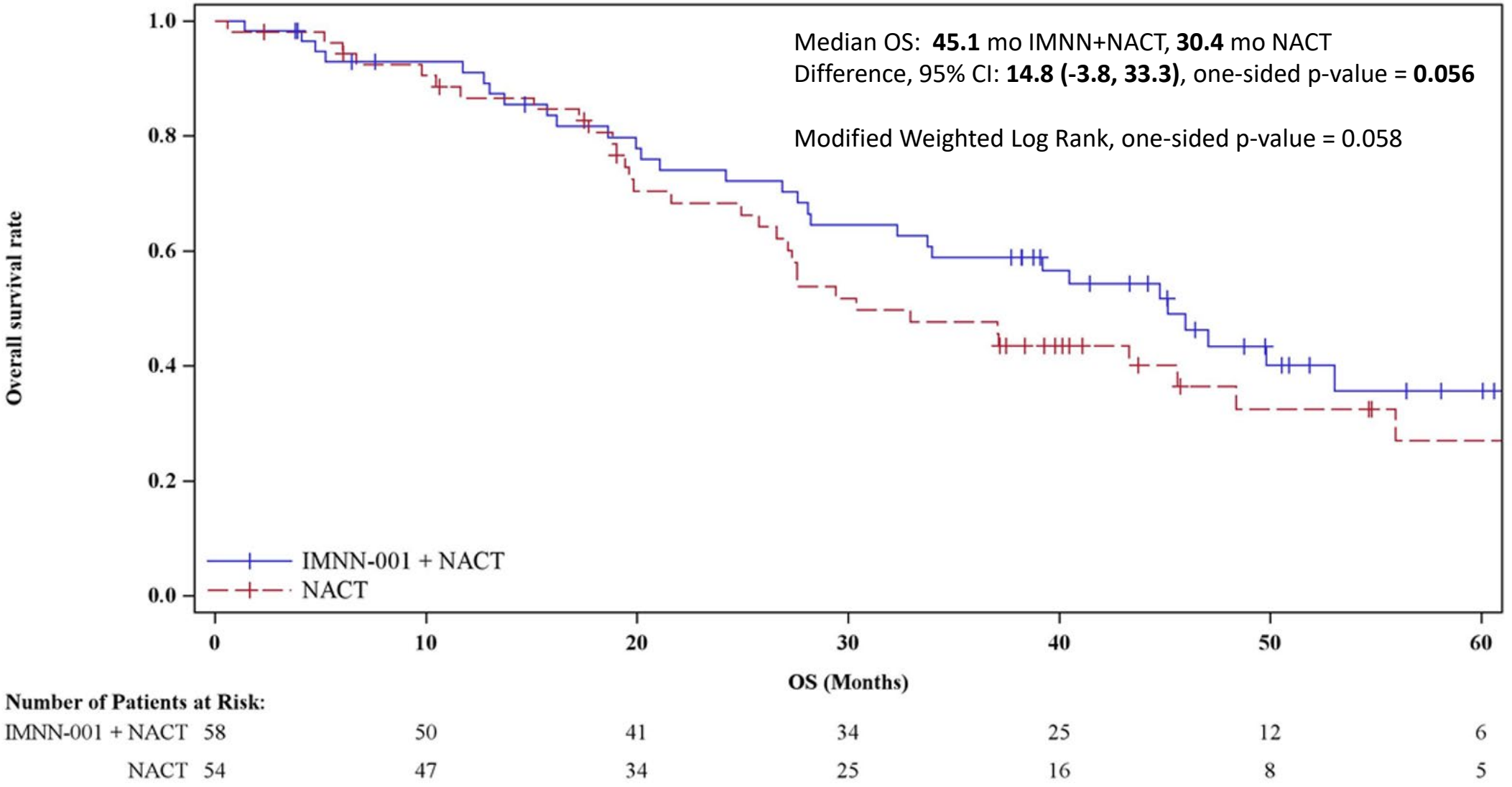
OVATION 2 Data Show Continued IMNN-001 Overall Survival Improvement

ITT, all-comers population: July 2024 Δmedians 11.1 months → Final Analysis: Δmedians 14.7 months



Number of Patients at Risk:

IMNN-001 + NACT	58	50	41	34	25	12	6
NACT	54	47	34	25	16	8	5

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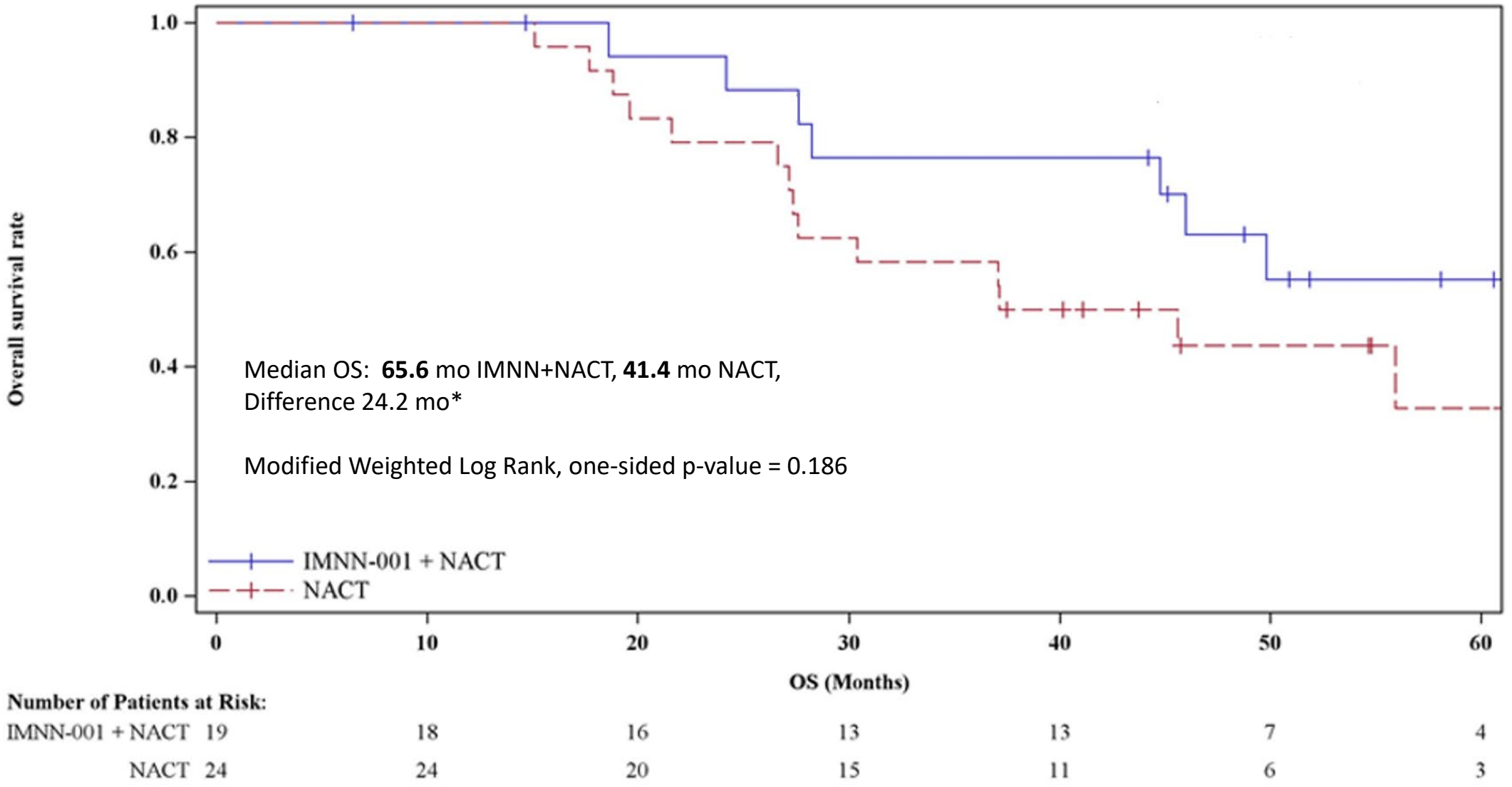
OVATION 2 PARPi-Treated Show 24-month IMNN-001 Overall Survival Improvement

PARPi maintenance treated patients: July 2024 Δmedians not evaluable → Final Analysis: Δmedians 24.2 months



Number of Patients at Risk:						
IMNN-001 + NACT	19	18	16	13	13	7	4
NACT	24	24	20	15	11	6	3

*Due to the small event rate, CI for the difference in medians can't be estimate

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Our Phase 3 Clinical Research is of Great Importance to the Medical Community

- Our Landmark Phase 2 Study was Showcased at ASCO with a Platform Presentation
- Published in Gynecologic Oncology, Premier Medical Outlets

2025 ASCO ANNUAL MEETING

A Phase I/II study of the Safety and Efficacy of IP IMNN-001 in combination with N/ACT in patients newly-diagnosed with advanced EOC:
Updated Survival Analysis from OVATION-2 Trial

P. Thaker, D. Richardson, A. Hagemann, R. Holloway, M. Reed, M. Bergman, B. Pothuri, S. DePasquale, J. Scalici, A. Begar, C. Darus, K. Finkelstein, C. Leath III, M. Bell, D. Warshal, R. Agajanian, M. Indermaur, A. Mendivil, D. Provencher, LJ Wei, L. Musso, S. Lindborg, D. Faller, K. Anwer, W. Bradley.

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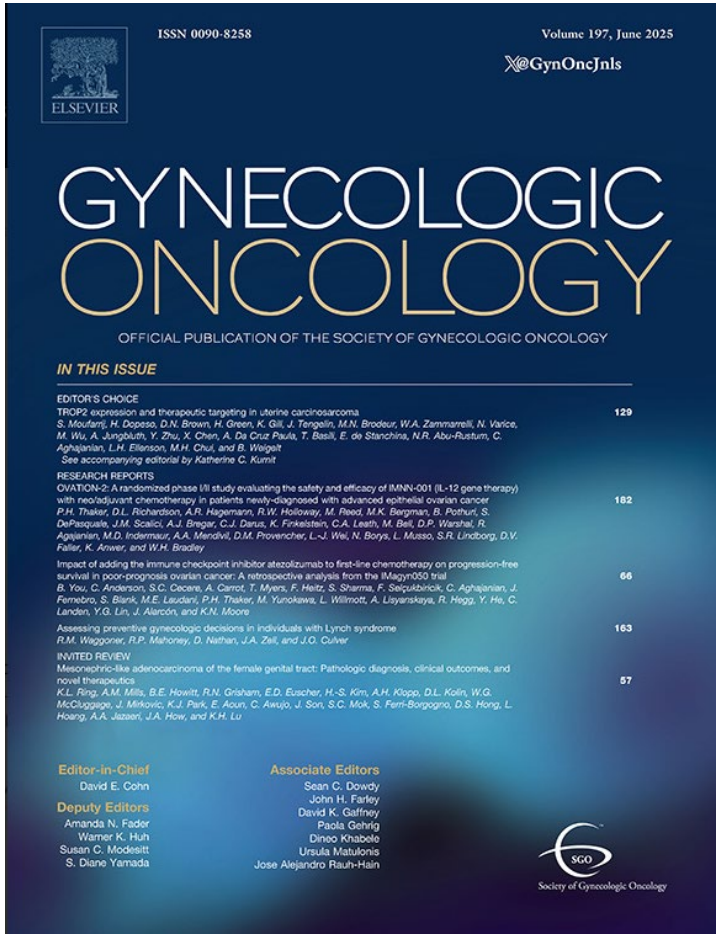

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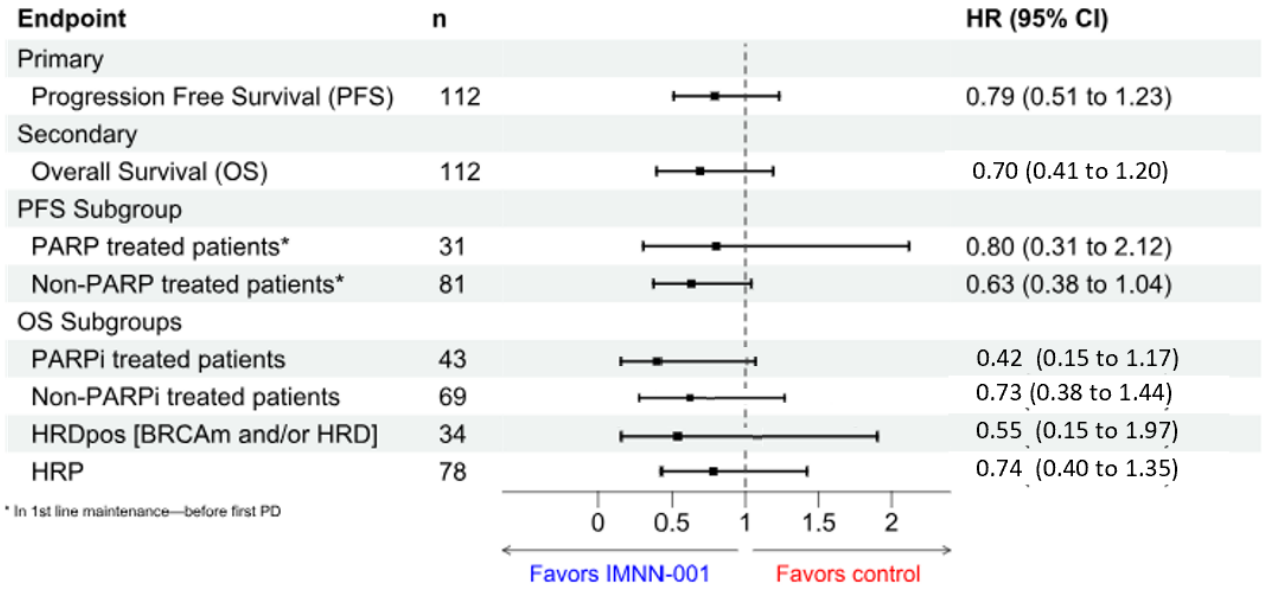
OVATION 2 Treatment Effect Consistently Favors IMNN-001 Across All Trial Endpoints and Pre-specified Subgroups†



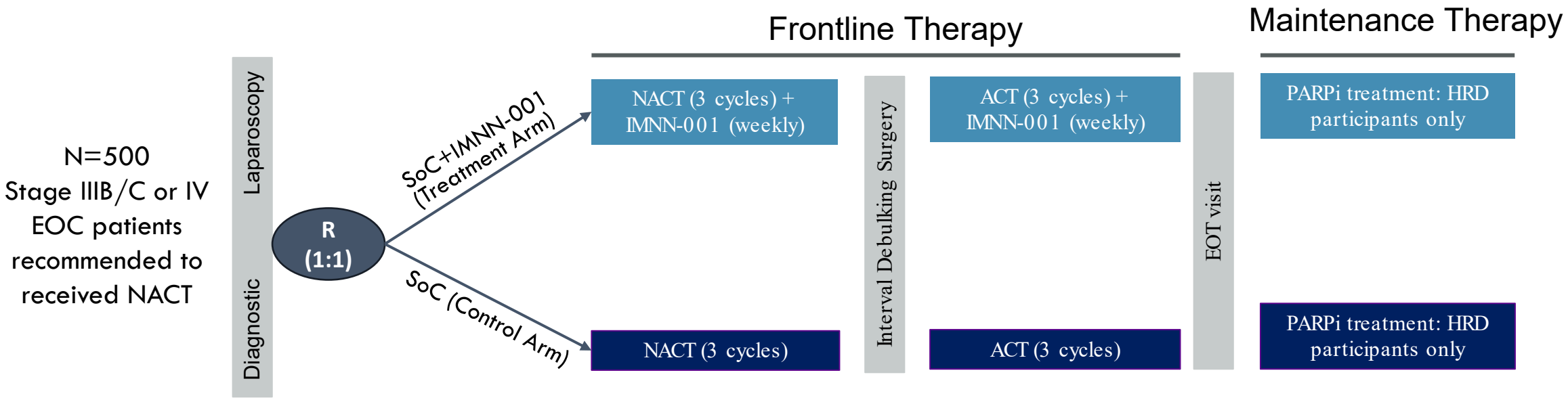
Consistent treatment effect in ongoing Phase 2 MRD Trial*:

- Lower MRD-positivity rate
- Lower % of positive biopsies
- Higher Progression Free Survival
- Higher CRS at cytoreduction

† Thaker et al. 2025 Gyn Onc

*MRD: minimal residual disease
Data from IMUNON 2025 R&D Day

OVATION 3: Purposeful Protocol Design & Rigorous Methodology



- Well controlled study with treatment and control arms, and protocol-specified maintenance
- Stratification for added confidence, balance across treatment arms with Stage at diagnosis
- Clinically meaningful Primary Endpoint Overall Survival
- Secondary endpoints that further evidence efficacy, safety and patient perspectives/QoL
- Event driven statistical methodology with interim analyses designed for early submission for full approval

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IMUNON in Phase 3, Well Positioned with Early Stopping Potential

- **Robust Data from 112 patient OVATION-2 (Phase 2) demonstrating IMNN-001 improvement over SoC**
  - Confidence in Phase 3 trial based on consistency of clinical data across all endpoints and subgroups
  - Final Data validated continued OS benefit
- **Successful meetings with FDA and full alignment**
  - Protocol, statistical analysis plan, cGMP plan for Phase 3 and commercial product
- **Innovative statistical design with planned interim analysis for early stopping for success and BLA filing to support FDA approval:**
  - Enhancements added to Phase 3: OS is the primary endpoint, stratification and population balance for interpretability, QoL scales added for pricing and reimbursement
  - Broad indication of women newly diagnosed with ovarian cancer who are eligible for neoadjuvant chemotherapy (N/ACT)
- **IMUNON team is well-positioned to execute on Phase 3 clinical trial**
  - Great collective depth and breath; strong track record of delivery while managing expenses and ability to fund the program to drive the business forward
- **OVATION-3 (Phase 3) clinical trial ongoing, FPV July 2025**
  - Site activation in progress, patient enrollment remains ahead of plan
  - Full Enrollment projected early 2029

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