UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

Current Report Pursuant to
Section 13 or 15(d) of the
Securities Exchange Act of 1934

Date of Report (Date of Earliest Event Reported): January 8, 2024

Mural Oncology plc
(Exact name of Registrant as Specified in Its Charter)

Ireland	**001-41837**	**98-1748617**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**
10 Earlsfort Terrace **Dublin 2, D02 T380, Ireland** **(Address of Principal Executive Offices)**		**Not Applicable** **(Zip Code)**

Registrant's Telephone Number, Including Area Code: +353-1-905-8020

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instructions A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Ordinary Shares, nominal value $0.01	MURA	The Nasdaq Global Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 7.01. Regulation FD Disclosure.

On January 8, 2024, Mural Oncology plc (the "Company") made available an updated corporate presentation, which can be accessed on the Investor Relations page of the Company's website at https://ir.muraloncology.com/events-and-presentations. The information contained in, or that can be accessed through, the Company's website is not a part of this filing. A copy of the corporate presentation is furnished as Exhibit 99.1 to this Current Report on Form 8-K and incorporated herein by reference.

The information in this Form 8-K, including Exhibit 99.1 attached hereto, is being furnished and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference into any filing by the Company under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such filing.

Item 9.01. Financial Statements and Exhibits

(d) Exhibits

Exhibit No.	Description
99.1	Mural Oncology plc Corporate Presentation, dated January 2024.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Mural Oncology plc

Dated: January 8, 2024

By: /s/ Adam Cutler
Name: Adam Cutler
Title: Chief Financial Officer

Exhibit 99.1

INVESTOR PRESENTATION

January 2024

Forward-Looking Statements

Certain statements set forth in this presentation constitute “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995, as amended. The words “anticipate,” “believe,” “expect,” “may,” “will” and similar expressions are intended to identify forward-looking statements. Forward-looking statements made in this presentation include, but are not limited to, statements concerning: the protein engineering capabilities of Mural Oncology plc (the “Company”); the potential therapeutic and commercial value, and anticipated safety profile, of the Company’s engineered cytokine programs and product candidates, including nemvaleukin alfa (“nemvaleukin”) as a cancer immunotherapy when used as monotherapy or in combination, and its broad potential utility across a wide array of tumor types and indications and its potential dosing optionality; the Company’s expectations regarding timelines and plans for the development of its engineered cytokines, including, for nemvaleukin, expectations related to ongoing clinical studies in the ARTISTRY development program, the ability of ongoing studies to support potential registration, and potential for expansion of the development program, including to explore novel combinations with other cancer treatments; and the sufficiency of the Company’s existing cash resources for the period anticipated. You are cautioned that forward-looking statements are inherently uncertain. Although the Company believes that such statements are based on reasonable assumptions within the bounds of its knowledge of its business and operations, the forward-looking statements are neither promises nor guarantees and they are necessarily subject to a high degree of uncertainty and risk. Actual results may differ materially from those expressed or implied in the forward-looking statements due to various risks, assumptions and uncertainties. These risks, assumptions and uncertainties include, among others: the inherent risks and uncertainties associated with competitive developments, preclinical development, clinical trials, recruitment of patients, product development activities and regulatory approval requirements; preclinical or interim results and data from ongoing clinical studies of the Company’s cytokine programs and product candidates may not be predictive of future or final results from such studies, results of future clinical studies or real-world results; future clinical trials or future stages of ongoing clinical trials may not be initiated or completed on time or at all; the Company’s product candidates, including nemvaleukin, could be shown to be unsafe or ineffective; changes in the cost, scope and duration of development activities; the U.S. Food and Drug Administration (“FDA”) may make adverse decisions regarding the Company’s product candidates; the separation may adversely impact the Company’s ability to attract or retain key personnel that support the Company’s oncology business; and those risks, assumptions and uncertainties described under the heading “Risk Factors” in the Company’s filings with the Securities and Exchange Commission (“SEC”), including its Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2023, and in subsequent filings the Company may make with the SEC, which are available on the SEC’s website at www.sec.gov. Existing and prospective investors are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. Except as required by law, the Company disclaims any intention or responsibility for updating or revising any forward-looking statements contained in this presentation.

SECTION 1:

EXECUTIVE SUMMARY

Mural Oncology - Building a Novel Engineered Cytokine Company

Mural Oncology

1. **Mural Oncology is a new, independent publicly traded company** with $275M in cash[1], providing runway into 4Q 2025. Highly experienced senior leadership team with deep immuno-oncology experience
2. **Portfolio of novel, investigational cytokines** engineered to optimize the "known knowns" of native interleukins (IL) – retain their high potency while potentially overcoming their low tolerability
3. **Nemvaleukin is an intrinsically active, stable fusion protein which does not degrade into native-IL-2** and is designed to selectively bind to the intermediate-affinity IL-2 receptor, enabling a potentially enhanced therapeutic window
4. **Nemvaleukin has generated compelling clinical data to date,** with durable responses[2] in monotherapy and in PD-1 combination across a range of tumor types. ARTISTRY-6 and ARTISTRY-7 readouts both expected in 1H 2025[3]
5. **IL-18 and IL-12 programs in development** with potentially differentiated therapeutic properties and leveraging advanced protein engineering capabilities. Candidate nominations expected in 2024

1. Cash balance as of Nov 15, 2023
2. Durable response defined as a response with a duration that exceeds the response generally observed with standard of care treatment; in the context of high unmet disease states such as mucosal melanoma and platinum-resistant ovarian cancer ("PROC"), a response that exceeds six months is considered durable
3. Subject to patient enrollment

Abbrev.: **IL-2:** interleukin-2; **IL-12:** interleukin-12; **IL-18:** interleukin-18

MURAL ONCOLOGY

Industry Leading Management Team and Board of Directors

Executive Team

Caroline Loew, Ph.D.
CEO

Adam Cutler
CFO

Vicki Goodman, M.D.
CMO

Maiken Keson-Brookes
CLO

Board of Directors

Susan Altschuller, Ph.D., MBA

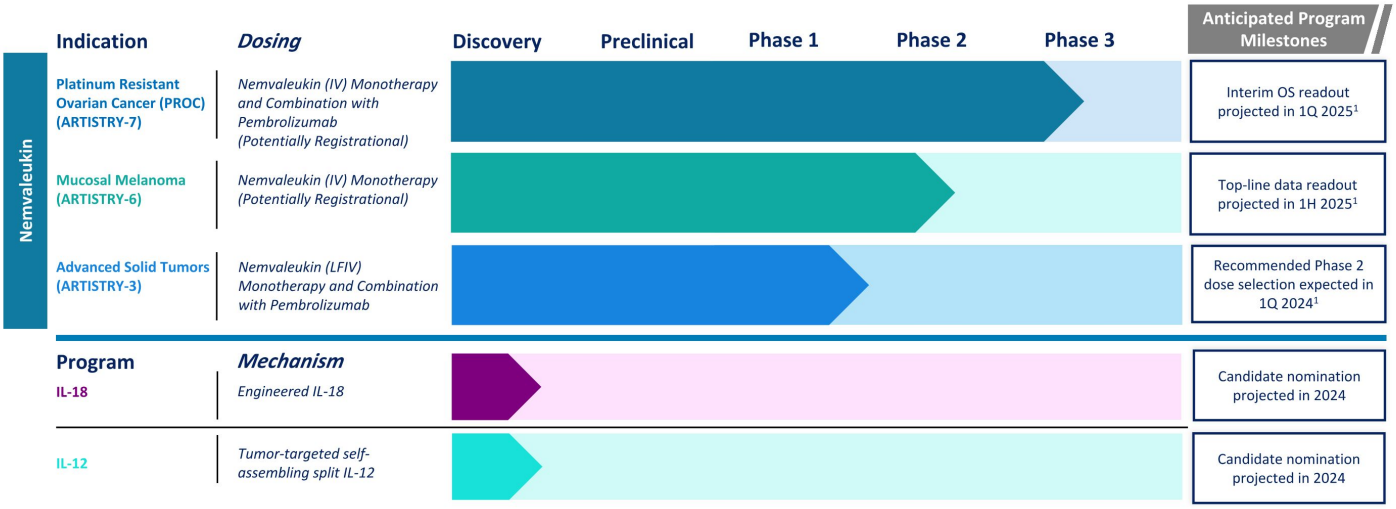
Francis Cuss, M.B., B.Chir., FRCP

Benjamin Hickey, MBA

Scott Jackson, MBA - Chairman

Caroline Loew, Ph.D.

Pipeline Overview – Near-Term Milestones



1. Subject to patient enrollment

Abbrev.: **IV**: intravenous; **LFIV:** less frequent IV dosing

MURAL ONCOLOGY

Mural's Novel Approach to Cytokine Design Seeks to Elevate Immunotherapy Treatment for Cancer Patients

Immunotherapy (IO) has transformed oncology over the last few decades and continues to generate staggering sales

$88 B

Projected by 2027[1]

Despite the progress of IO treatment, most patients fail to benefit from current treatments

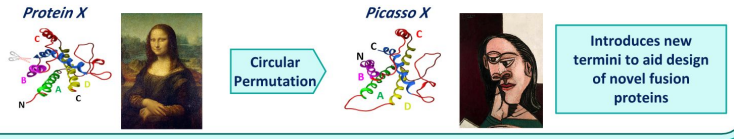
- Minority of patients respond to anti-PD-(L)1 therapy
- Responders often experience disease progression

Developing elegantly engineered cytokines to unlock the promise of IO for broader cancer populations

Deep Biologic Understanding → Sophisticated Fit-for-purpose Protein Engineering → **Elegantly Designed Cytokines**

Developed to meaningfully enhance utility of selected protein

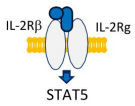
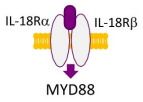
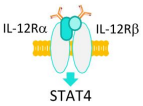
Foundational Approach: Proprietary "Picasso" Technology



Extracted from Lei Q, et al. Front. Cell Dev. Biol. 2020;8:00672

1. GlobalData Thematic Research: Immuno-Oncology

Mural's Core Competency: Fit-For-Purpose Engineered Cytokines

Program		Technical challenge	Protein engineering solution
Nemvaleukin[1] (IL-2 fusion protein)		• Systemic toxicities due to preferential binding to immunosuppressive high-affinity IL-2R	• Fusion of circularly permuted IL-2 with IL-2Rα subunit resulting in only activating immunostimulatory intermediate-affinity IL-2R
Engineered IL-18		• Limited clinical efficacy due to IL-18BP tightly binding to IL-18, neutralizing IL-18 receptor activation	• Engineered IL-18 designed with a half-life extension and resistant to IL-18BP neutralization, while retaining native IL-18 activity
Tumor-targeted split IL-12		• Clinical utility limited by severe toxicities at efficacious doses	• Separate inactive tumor-targeted IL-12 subunits that preferentially assemble and activate in the tumor

1. Intrinsically active stable, not degraded fusion protein, sterically occluded from binding to the high-affinity IL-2R

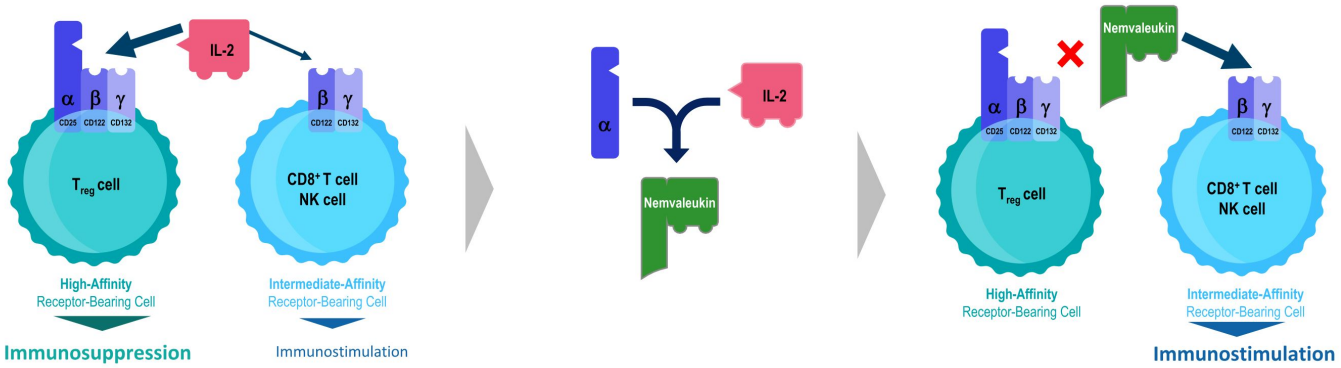
Abbrev.: T_{regs}: regulatory T cells; **rhIL:** recombinant human IL; **IL-2R:** IL-2 receptor; **IL-2Rα**: IL-2R alpha, **IL-18BP:** IL-18 binding protein

MURAL ONCOLOGY

SECTION 2:

NEMVALEUKIN ALFA

Nemvaleukin is Meaningfully Differentiated from Native IL-2



Native IL-2

- Preferential binding to high-affinity IL-2R
- Immunosuppressive activity outweighs immunostimulant activity

Our Design Objective

Fuse IL-2 to α subunit to block activation of high-affinity IL-2R

Nemvaleukin

- Sterically occluded from binding to the high-affinity IL-2R
- Activity focused on immunostimulation

Source: Lopes J, et al. *J Immunother Cancer*. 2020;8:e000673.

 Abbrev.: **IL-2R**: IL-2 receptor; **hdIL-2**: high dose IL-2

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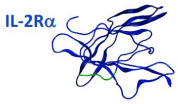
Nemvaleukin Design Detail

Rigorous Selection of α Subunit for Fusion to IL-2

Application of PICASSO™ Technology

Nemvaleukin

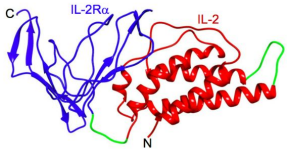
Elegantly-designed fusion protein harnessing IL-2 immunostimulant biology



- Directly blocks α component of high affinity IL-2R
- Native component of IL-2 receptor immune system

Circular permutation & fusion to α subunit

- **Minimal alteration to IL-2 sequence**
  - Allows appropriate placement of α subunit
- **Maintains IL-2 structure**
  - Preserves confirmation and activity at intermediate affinity IL-2R



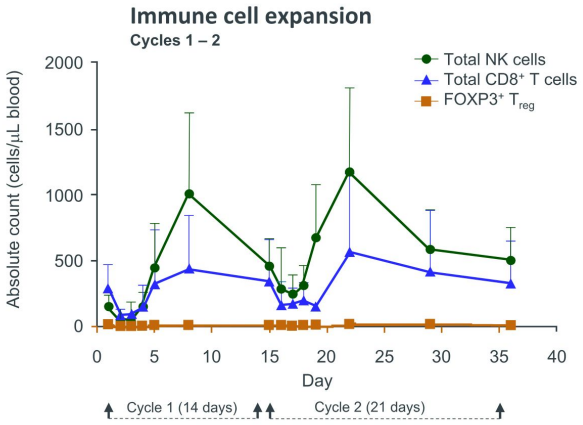
- ✓ Sterically occluded from high-affinity IL-2R
- ✓ Minimizes immunogenicity risk
- ✓ Results in stable fusion protein
- ✓ Intrinsically active
- ✓ No metabolic or proteolytic conversion

Abbrev.: **IL-2R**: IL-2 receptor; **IL-2Rα**: IL-2R alfa

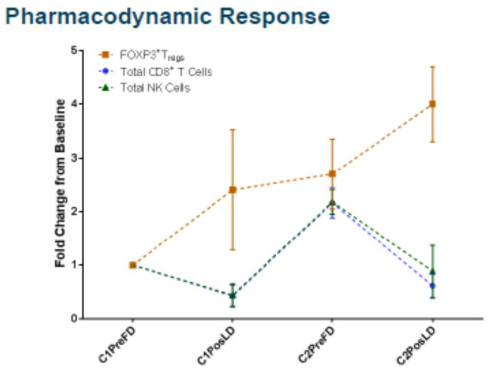
MURAL ONCOLOGY

Clinical Pharmacodynamic Effects of Nemvaleukin: More NK Cells and Fewer T_{regs} than High-Dose IL-2[1,2]

Nemvaleukin[1]



High-Dose IL-2[2]



High-dose IL-2 33 µg/kg IV TIDx5

Nemvaleukin: CD8 T and NK cells preferentially activated while T_{regs} remained suppressed

Nemvaleukin data are from the 6 µg/kg cohort in Part A of ARTISTRY-1. For fold change plots, data are mean + SE (N=10). For time course plot, data are mean + SD (N=12). 1. Vaishampayan et al. Oral Abstract 2500 presented at ASCO 2022. 2. Bhatt et al. Poster P123 presented at SITC 2018. HD, high-dose; IL-2, interleukin-2; IV, intravenous; NK, natural killer; SD: Standard deviation; SE: Standard Error; TID, 3 times daily; Treg, regulatory T cell

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Nemvaleukin: Potential First-in-Class, Differentiated Immunotherapy

	Nemvaleukin Characteristics	Significance
Design	Designed to include IL-2Rα and minimize non-native sequences	• Potentially reduced immunogenicity and more native-like-IL-2 signaling potential
	Does not require activation by tumor intrinsic factors	• Immediately active upon delivery
	Limited binding to high affinity IL-2R	• Potentially enhances therapeutic window
PK/PD	Observed expansion of CD8/NK cells with minimal effect on regulatory T cells in humans	• Potentially greater therapeutic window and reduced immune suppression
	Observed monotherapy responses in multiple tumor types	• Validation of our design and approach
Clinical	Demonstrated clinical activity post-CPI progression and in CPI-unapproved tumor types	• Clinical activity in patients who no longer respond to CPI therapies
	Product candidate is in Phase 2/3, potentially registrational, trials	• Potentially first IL-2 variant to market

Abbrev.: **CPI:** checkpoint inhibitor

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Nemvaleukin: Deliberate and Focused Development Program

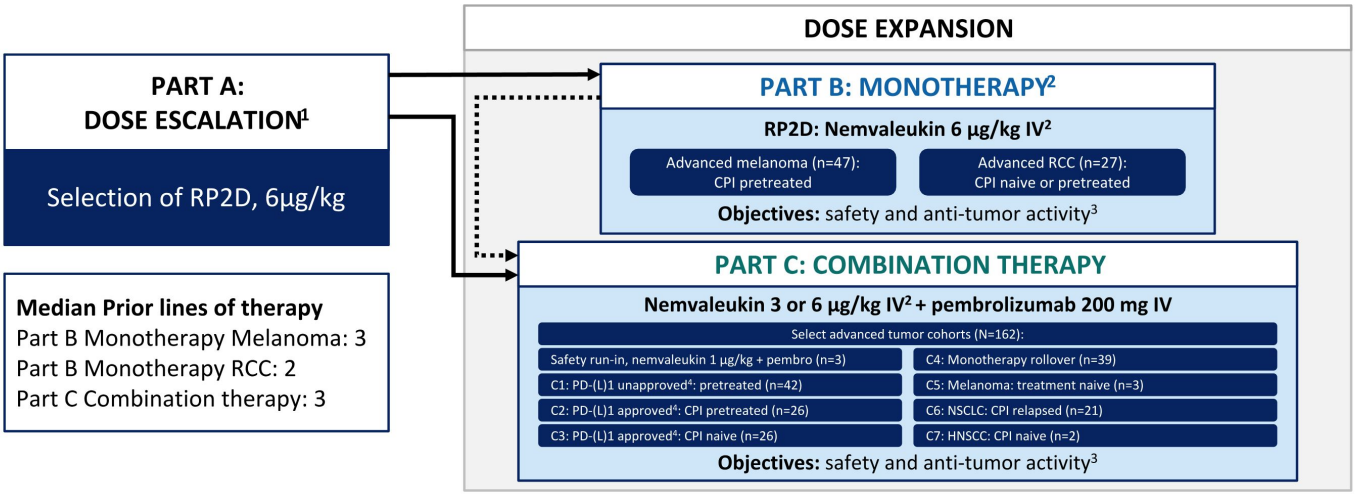
Type of Clinical Trial	Trial Name / Phase	Tumor Types	Dosing	Mono or Combo? Status
Foundational	ARTISTRY-1 Phase 1/2	Advanced solid tumors	Daily IVx5	- Multiple responses in mono and combo - Trial complete
Potentially Registrational Enabling	ARTISTRY-6* Phase 2	Mucosal melanoma	Daily IVx5	- Monotherapy - Enrollment ongoing
	ARTISTRY-7 Phase 3	Platinum-resistant ovarian cancer	Daily IVx5	- Pembro combo - Enrollment ongoing
Alternative Dosing	ARTISTRY-2 Phase 1/2	Advanced solid tumors	SC Q1W	- Combo with pembro - Data maturing
	ARTISTRY-3 Phase 1/2	Select advanced solid tumors	Less frequent IV	- Monotherapy - RP2D expected 1Q 2024

* Cohort 2 of Artistry-6 is registrational enabling and explores daily IVx5 dosing in mucosal melanoma. Cohort 1 and Cohort 3 explore SC Q1W and less frequent IV dosing, respectively, in cutaneous melanoma.

Abbrev.: **IV**: Intravenous; **SC**: Subcutaneous

MURAL ONCOLOGY

ARTISTRY-1: First-In-Human Trial of IV Nemvaleukin
Global, Multicenter, Open-Label Phase 1/2 Trial

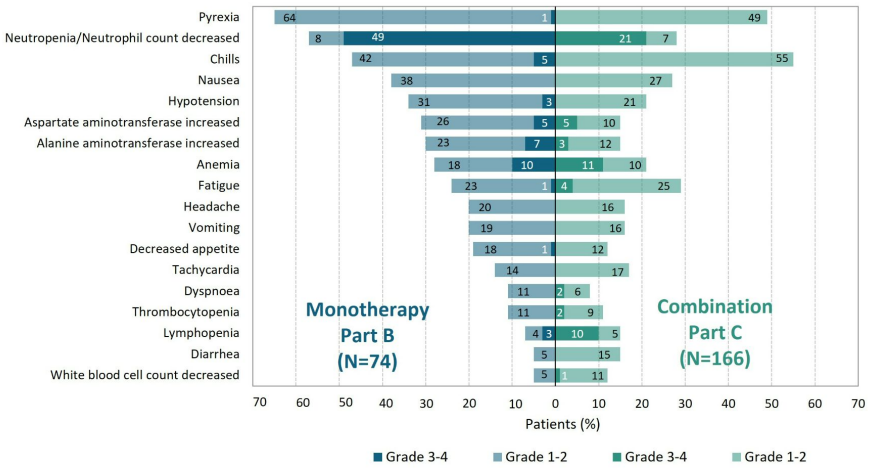


NCTO2799095
1. Patients from Parts A and B could roll over to Part C upon progression or stable disease (after ≥ 4 cycles) on monotherapy
2. Nemvaleukin daily Q5D, then off treatment for 9 days (cycle 1) or 16 days (cycle 2+)
3. ORR assessed by investigator (RECIST v1.1)
4. Nemvaleukin 3 µg/kg/d in C1-C4, 6 µg/kg/d in C5-C7. PD-(L)1 approved/unapproved indication based on FDA prescribing information and may have changed over time

Abbrev.: **1-7**: Cohort 1-7; **CPI**: checkpoint inhibitor; **HNSCC**: head & neck squamous cell carcinoma; **IV**: intravenous; **NSCLC**: non-small cell lung cancer; **ORR**: overall response rate; **PD-(L)1**: programmed death (ligand) 1; **RCC**: renal cell carcinoma; **RECIST**: Response Evaluation Criteria In Solid Tumors; **RP2D**: recommended phase 2 dose

MURAL ONCOLOGY

Nemvaleukin's Adverse Event Profile in ARTISTRY-1 Was Consistent with Our Expectations Based on its Mechanism of Action



- Administered on outpatient basis; most frequent AEs were manageable with supportive care
- AE profile consistent with nemvaleukin mechanism of action
- Monotherapy safety profile was similar to combination, with no additive toxicity
- Most frequently observed grade 3-4 TRAE: neutropenia[1]
  - Median duration 4 days; not associated with risk of serious infections or febrile neutropenia
- TRAEs leading to discontinuation: 4% (monotherapy)[2], 4% (combination)[3]

1. Includes neutropenia and neutrophil count decreased
2. TRAEs leading to discontinuation in monotherapy were Gr3 failure to thrive, Gr3 bronchospasm, Gr2 ECG T wave abnormal, and Gr1 cardiac troponin increase
3. TRAEs leading to discontinuation in combination were Gr5 starvation, Gr3 arthralgia, Gr3 fatigue, Gr3 pneumonia, and Gr2 cytokine release syndrome

Part C includes patients who received nemvaleukin at 1, 3, or 6 µg/kg IV in combination with pembrolizumab 200 mg IV. Data as of Mar 27, 2023

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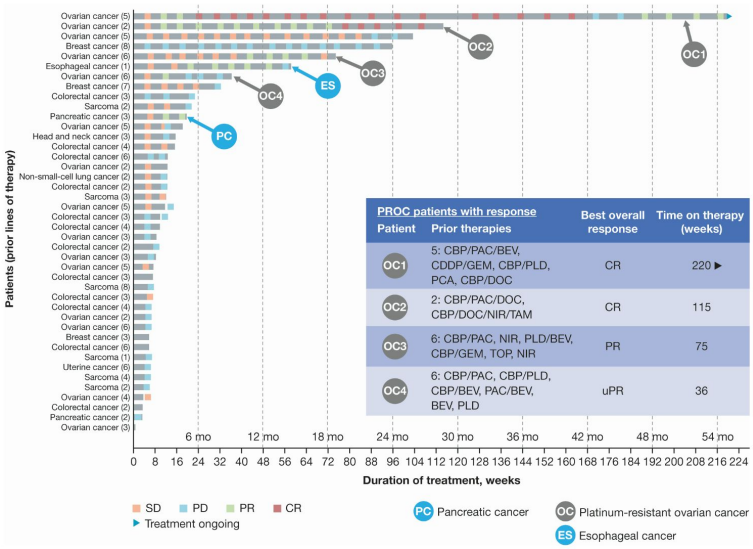
ARTISTRY-1: Nemvaleukin Combination Treatment with Pembrolizumab Demonstrated Durable Responses

Cohort 1



PROC patients with response			
Patient	Prior therapies	Best overall response	Time on therapy (weeks)
OC1	5: CBP/PAC/BEV, CDDP/GEM, CBP/PLD, PCA, CBP/DOC	CR	220 ▶
OC2	2: CBP/PAC/DOC, CBP/DOC/NIR/TAM	CR	115
OC3	6: CBP/PAC, NIR, PLD/BEV, CBP/GEM, TOP, NIR	PR	75
OC4	6: CBP/PAC, CBP/PLD, CBP/BEV, PAC/BEV, BEV, PLD	uPR	36

Best overall response n (%)	PROC (n=14)
CR	2 (14.3%)
PR	2 (14.3)*
SD	6 (42.9)
PD	2 (33.3)
ORR, n (%)	4 (28.6)*
DCR, n (%)	10 (71.4)*
Median DOR in weeks	65.5

*Includes 1 confirmed PR, 1 unconfirmed PR

Data cut off Mar 27 2023

Abbrev.: **BEV**: bevacizumab; **CBP**: carboplatin; **CDDP**: cisplatin; **CR**: complete response; **DOC**: docetaxel; **FDA**: Food and Drug Administration; **GEM**: gemcitabine; **mo**: month; **NIR**: niraparib; **PAC**: paclitaxel; **PCA**: paclitaxel albumin; **PD**: progressive disease; **PD-(L)1**: programmed death (ligand) 1; **PLD**: pegylated liposomal doxorubicin hydrochloride; **PR**: partial response; **PROC**: platinum-resistant ovarian cancer; **SD**: stable disease; **TAM**: tamoxifen; **TOP**: topotecan; **uPR**: unconfirmed PR

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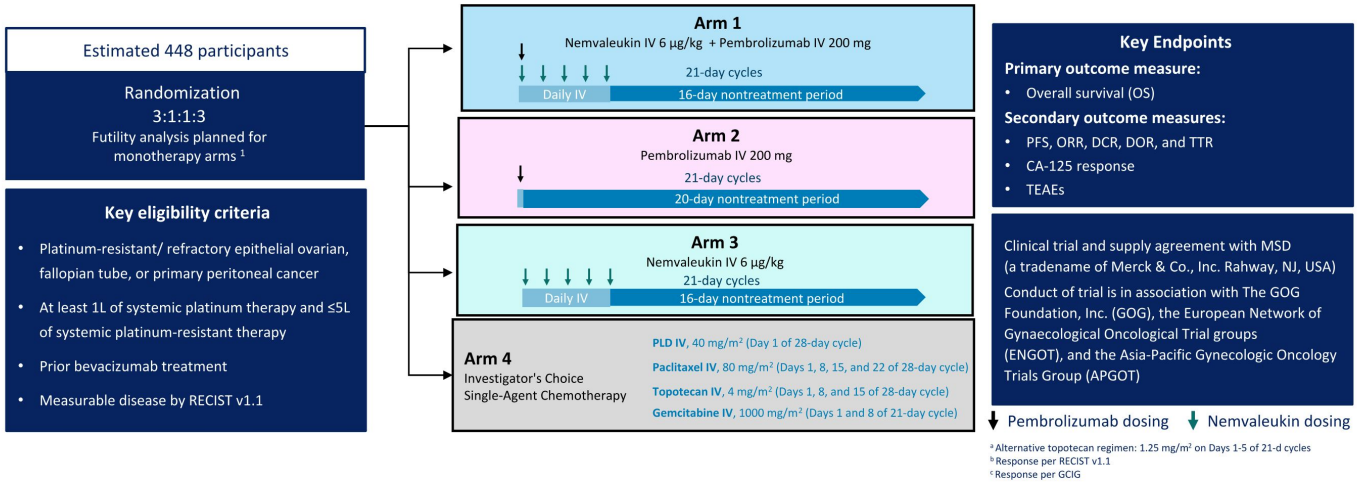
ARTISTRY-7: Phase 3 / Potentially Registrational Study for Platinum-Resistant Ovarian Cancer

Investigational Nemvaleukin IV ± Pembrolizumab Versus Pembrolizumab Monotherapy or Chemotherapy



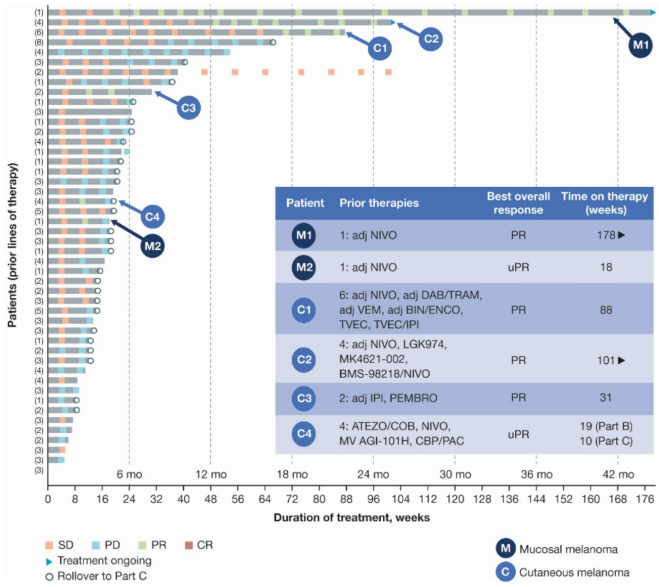
[a] Alternative topotecan regimen: 1.25 mg/m² on Days 1-5 of 21-d cycles
[b] Response per RECIST v1.1
[c] Response per GCIG

1. Herzog T et al. Poster presented at the Society for Gynecologic Cancers Annual Meeting (SGO), Phoenix, AZ, March 18-21, 2022

Abbrev.: **CA-125**: cancer antigen-125; **DCR**: disease control rate; **DOR**: duration of response; **GCIG**: Gynecologic Cancer InterGroup; **IV**: intravenous; **ORR**: objective response rate; **PFS**: progression-free survival; **PLD**: pegylated liposomal doxorubicin; **RECIST**: Response Evaluation Criteria in Solid Tumors; **TEAE**: treatment-emergent adverse event; **TTR**: time to response

MURAL ONCOLOGY

ARTISTRY-1: Nemvaleukin Demonstrated Durable Monotherapy Responses in Melanoma (Part B)



Responses per RECIST v1.1

	All[a,b] (n=46)	Mucosal (n=6)
Best overall response, n (%)		
CR	0	0
PR	6 (13.0)[c]	2 (33.3)[d]
SD	30 (65.2)	2 (33.3)
PD	10 (21.7)	2 (33.3)
ORR, n (%) [95% CI]	6 (13.0) [4.9-26.3][c]	2 (33.3) [4.3-77.8][d]
DCR, n (%) [95% CI]	36 (78.3) [63.6-89.1] [c]	4 (66.7) [22.3-95.7] [d]
DOR in weeks[d], Mean (SD) Median (range)	40.77 (55.6) [c] 16.75 (6.1-150.3)	78.2 (101.9)[d] 78.2 (6.1-150.3)

[a] Excludes 1 patient who did not meet tumor-evaluable criteria. [b] Patients with mucosal, cutaneous, uveal, acral included in 'All'. [c] Includes 4 confirmed PRs, 2 unconfirmed PRs, [d] 1 confirmed PR. [e] DOR for Part B only and does not include patients who rolled over to Part C; some patients may still be on treatment

- All responders had been on prior CPI therapy and progressed
- FDA Orphan Drug and Fast Track designations, as well as MHRA's ILAP Innovation Passport, granted in mucosal melanoma
- Data supported design of ARTISTRY-6 study

Data cut off Mar 27, 2023

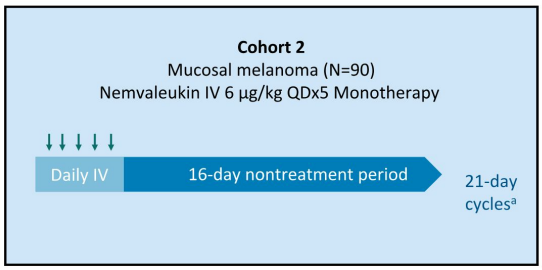
Abbrev.: **adj**: adjuvant; **ATEZO**: atezolizumab; **BIN**: binimetinib; **CBP**: carboplatin; **CI**: confidence interval; **COB**: cobimetinib; **CPI**: checkpoint inhibitor; **CR**: complete response; **DAB**: dabrafenib; **DCR**: disease control rate (CR+PR+SD); **DOR**: duration of response; **ENCO**: encorafenib; **FDA**: US Food and Drug Administration; **IPI**: ipilimumab; **MHRA:** Medicines and Healthcare products Regulatory Agency; **MV**: melanoma vaccine; **NA**: not applicable; **NIVO**: nivolumab; **ORR**: overall response rate; **PAC**: paclitaxel; **PD**: progressive disease; **PEMBRO**: pembrolizumab; **PR**: partial response; **SD**: stable disease; **TRAM**: trametinib; **TVEC**: talimogene laherparepvec; **VEM**: vemurafenib

MURAL ONCOLOGY

Cohort 2 of ARTISTRY-6: Phase 2 / Potentially Registrational Trial of Nemvaleukin in Mucosal Melanoma

Key eligibility criteria [1]

- Unresectable and/or metastatic mucosal melanoma
- Patient has received anti–PD(L)-1 ± anti–CTLA-4 therapy
- No more than 1 prior systemic therapy
- Measurable disease per RECIST v1.1
- ECOG PS 0-1



Key endpoints

- **Primary:** ORR per RECIST v1.1 (by independent central review)
- **Key secondary:** DOR, PFS, DCR, TTR per RECIST v1.1 (by independent central review)

[a] With the exception of Cycle 1, which is 14 days (daily IV for 5 days + 9 days nontreatment), all cycles were 21 days[3]

Nemvaleukin dosing

- ARTISTRY-6 also includes Cohorts 1 and 3, which are designed to explore alternative dosing regimens of nemvaleukin in cutaneous melanoma

1. https://clinicaltrials.gov, NCT04830124

Abbrev.: **CTLA-4:** cytotoxic T-lymphocyte–associated antigen 4; **DCR**: disease control rate; **DOR**: duration of response; **ECOG PS**: Eastern Cooperative Oncology Group performance status; **IV**: intravenous; **ORR**: objective response rate; **PD-(L)1**: programmed death (ligand) 1; **PFS**: progression-free survival; **RECIST**: Response Evaluation Criteria in Solid Tumors; **TTR**: time to response

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Focused on Initial, Potentially Registrational Indications with Compelling Expansion Opportunities

Initial Development
Two indications with unmet need

Platinum-Resistant Ovarian Cancer
13K Patients[1,2]

- FDA Fast Track Designation
- In combination with pembrolizumab
- Potential to provide an immunotherapy option to an indication where CPIs have failed

Mucosal Melanoma
2K Patients[1]

- FDA Fast Track and Orphan Drug Designation
- Opportunity to further establish monotherapy efficacy in a larger patient cohort
- Potential to be first approval specific to mucosal melanoma

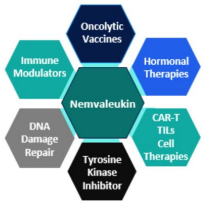
Planned Expansion Into Broader Cancer Indications
Evolution of a proven cytokine provides opportunity to expand utility

Earlier Lines of Therapy in Ovarian and Cutaneous Melanoma

40K+
First line patients in each indication[1]

Multiple complete and partial responses
Observed in both cutaneous melanoma and ovarian cancer in combination with an anti-PD-(L)1 therapy

Other Mechanistic Combinations



Scientific rationale for many combinations to advance cancer treatment across a range of tumor types

Apply design and development approach to advance additional immunotherapy applications

1. Clarivate Epidemiology; Estimated number of patients in the U.S. and Europe
2. Represents 3rd line PROC patients

Abbrev.: **CPI**: Checkpoint Inhibitor; **MOA**: Mechanism of Action; **RCC**: Renal Cell Carcinoma; **NSCLC**: Non-small cell lung cancer

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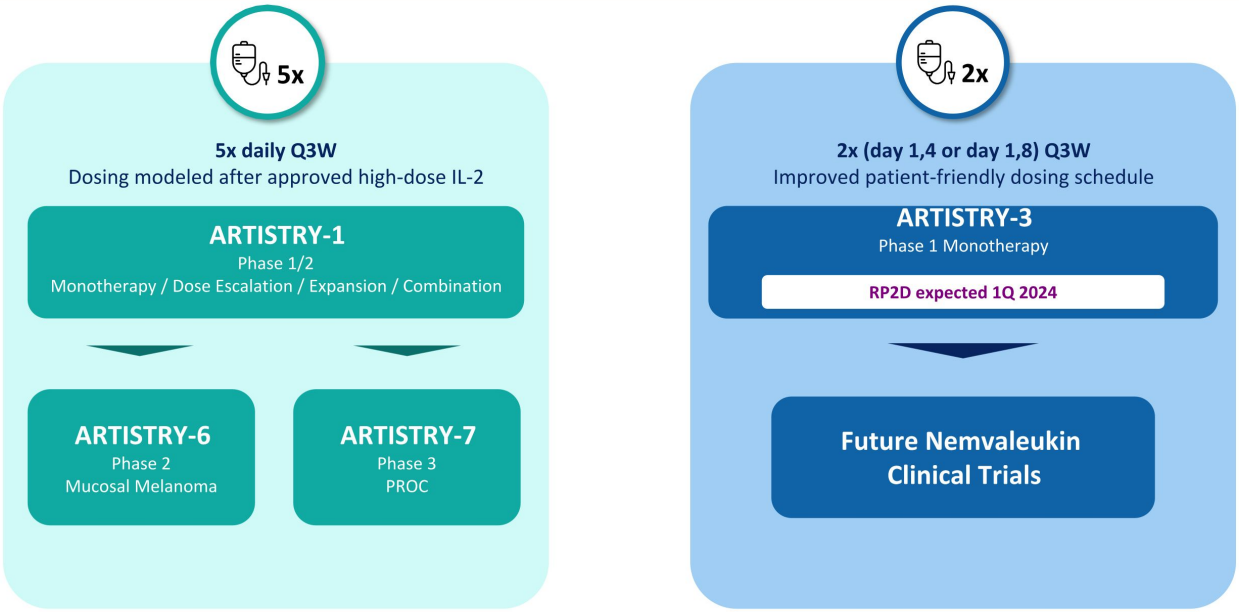
Exploration of Alternative Dose Administration and Schedule Underway to Further Optimize Nemvaleukin Profile



 Abbrev.: **PROC**: Platinum-resistant ovarian cancer; **RP2D**: Recommended Phase 2 Dose

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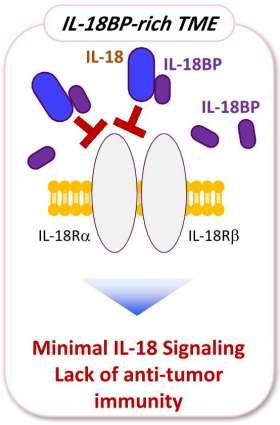
SECTION 3:

ADDITIONAL PIPELINE PROGRAMS

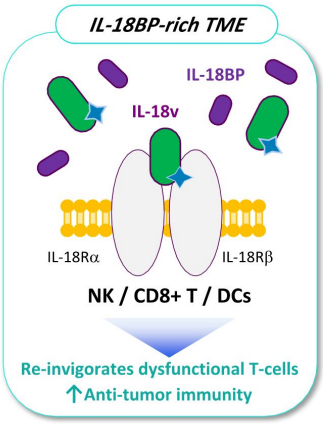
IL-18 Engineering: Resist IL-18BP Checkpoint to Unleash the Therapeutic Potential of IL-18

Challenge to IL-18



Internal expertise in protein engineering

Mural Solution: Engineer IL-18 variants resistant to IL-18BP



Design Approach via Mutation(s):

1. **Resist IL-18 neutralization by immune checkpoint IL-18BP**
2. **Retain and optimize IL-18 activity**
3. **Increase exposure via half-life extension**

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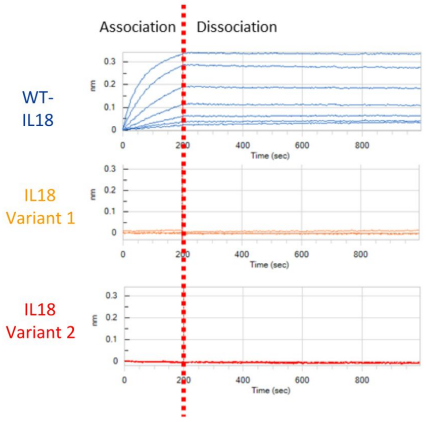
Preclinical Studies Demonstrated Improved Potency with Maximal Resistance to IL-18BP Inhibition

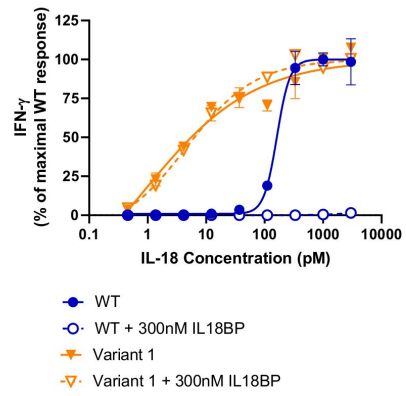
No Detectable Binding of Variants to IL-18BP



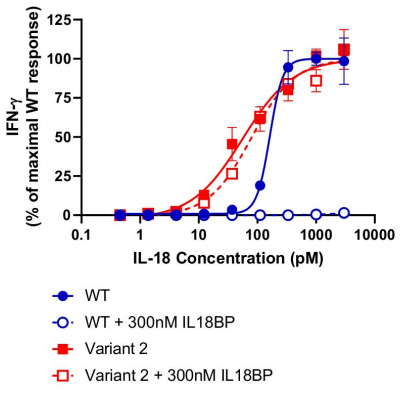
Note: No detectable binding of IL18 Variants to hIL-18BP

Variants with Broad Range of Potency vs WT IL-18 with Resistance to IL-18BP Suppression

Maximal Resistance with Potency Stronger than WT



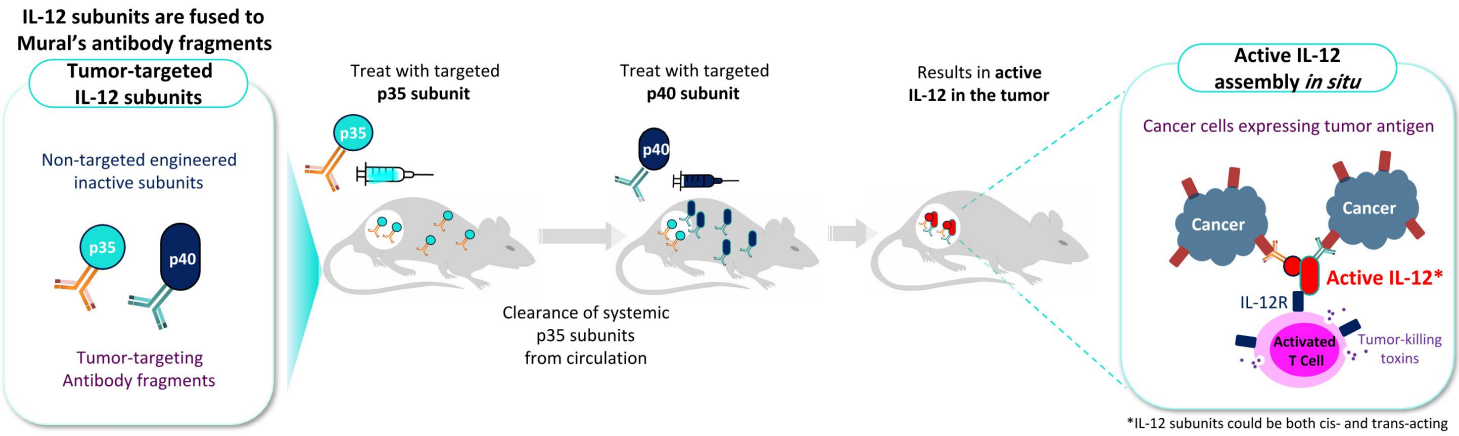
Maximal Resistance with Potency Similar to WT



*Mural internal data

IL-12 Engineering: Tumor Site-Specific Assembly of Functional IL-12 Designed to Limit Systemic IL-12 Exposure

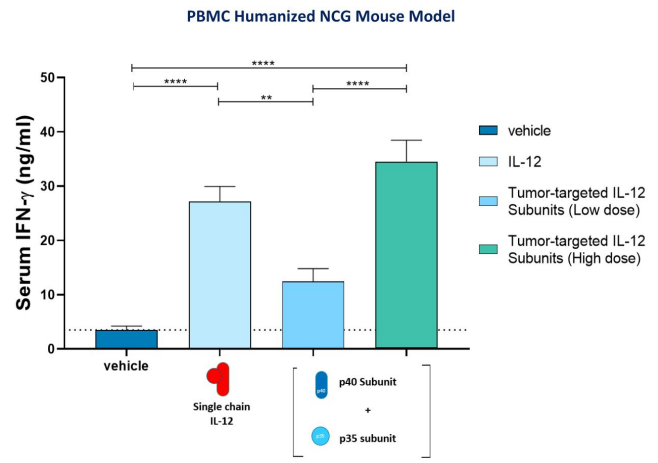
Assemble functional IL-12 in the tumor with goals of avoiding toxicity associated with systemic exposure and maximizing the IL-12 therapeutic window



*IL-12 subunits could be both cis- and trans-acting

Preclinical Studies Provide Proof of Mechanism with a Clear Pharmacodynamic Response

- In general, IL-12 anti-tumor activity observed in preclinical studies has been driven by activation of innate and adaptive immune compartments and production of IFN-γ[1,2]
  - Clinical utility has been limited by severe toxicities from systemic exposure leading to a narrow therapeutic index[1,2,3]
- Mural's sequential administration of tumor-targeted IL-12 subunits resulted in a dose-dependent increase in serum IFN-γ levels



1. Nguyen KG et. al. Cancer Immunotherapy. Front. Immunol. October 15 2020 11:575597
2. Vecchio MD et. al. Clin Cancer Res August 15 2007 (13) (16) 4677-4685
3. Strauss J et. al. Clin Cancer Res January 1 2019 (25) (1) 99-109

Source: Company internal data on file

 Abbrev: **rhIL-12**: recombinant human IL-12; **GLP:** good laboratory practice

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Mural Oncology - Building a Novel Engineered Cytokine Company

Mural Oncology

1. **Mural Oncology is a new, independent publicly traded company** with $275M in cash[1], providing runway into 4Q 2025. Highly experienced senior leadership team with deep immuno-oncology experience
2. **Portfolio of novel, investigational cytokines** engineered to optimize the "known knowns" of native interleukins – retain their high potency while potentially overcoming their low tolerability
3. **Nemvaleukin is an intrinsically active, stable fusion protein which does not degrade into native-IL-2** and is designed to selectively bind to the intermediate-affinity IL-2 receptor, enabling a potentially enhanced therapeutic window
4. **Nemvaleukin has generated compelling clinical data to date,** with durable responses[2] in monotherapy and in PD-1 combination across a range of tumor types. ARTISTRY-6 and ARTISTRY-7 readouts both expected in 1H 2025[3]
5. **IL-18 and IL-12 programs in development** with potentially differentiated therapeutic properties and leveraging advanced protein engineering capabilities. Candidate nominations expected in 2024

1. Cash balance as of Nov 15, 2023
2. Durable response defined as a response with a duration that exceeds the response generally observed with standard of care treatment; in the context of high unmet disease states such as mucosal melanoma and platinum-resistant ovarian cancer ("PROC"), a response that exceeds six months is considered durable
3. Subject to patient enrollment

 Abbrev.: **IL-2:** interleukin-2; **IL-12:** interleukin-12; **IL-18:** interleukin-18

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THANK YOU!

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