Artelo BIOSCIENCES®

December 2025

Corporate Presentation

Nasdaq:ARTL

Pioneering the Science of Lipid Signaling Modulation to Develop Novel Therapeutics

Forward Looking Statements

Artelo Biosciences, Inc. (the "Company") cautions you that statements contained in this presentation regarding matters that are not historical facts are forward-looking statements. These statements are based on the Company's current beliefs and expectations. Such forward-looking statements include, but are not limited to, statements regarding: those relating to the Company's product development, clinical and regulatory timelines, market opportunity, competitive position, possible or assumed future results of operations, business strategies, ESG performance, potential growth opportunities and other statements that are predictive in nature. These forward-looking statements are based on current expectations, estimates, forecasts and projections about the industry and markets in which we operate and management's current beliefs and assumptions. The inclusion of forward-looking statements should not be regarded as a representation by the Company that any of its plans will be achieved. Actual results may differ from those set forth in this presentation due to the risks and uncertainties inherent in the Company's business, including, without limitation: potential delays in the commencement, enrollment and completion of clinical trials; disruption to the Company's operations, including clinical trial delays; the success of any of the Company's clinical trials and preclinical studies for its product candidates; regulatory developments in the United States and foreign countries; unexpected adverse side effects or inadequate efficacy of our product candidates that may limit their development, regulatory approval and/or future commercialization; the Company's ability to obtain and maintain intellectual property protection for its product candidates; the Company may use its capital resources sooner than it expects; and other risks described in the Company's prior communications and the Company's filings with the Securities and Exchange Commission (the "SEC"). You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof, and the Company undertakes no obligation to update such statements to reflect events that occur or circumstances that exist after the date hereof. All forward-looking statements are qualified in their entirety by this cautionary statement, which is made under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. This presentation includes statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties as well as our own estimates of potential market opportunities. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. Our estimates of the potential market opportunities for our products include several key assumptions based on our industry knowledge, industry publications, third-party research and other surveys, which may be based on a small sample size and may fail to accurately reflect market opportunities. While we believe that our internal assumptions are reliable, such assumptions have not been verified by any third party. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of important factors that could cause results to differ materially from those expressed in the estimates made by third parties and by us. Trademarks in this presentation are the property of their respective owners and used for informational and education purposes only. Pipeline programs are under investigation and have not been proven to be safe or effective. There is no guarantee any product will be approved or meet any developmental milestones indicated above.

The Company's SEC filings are available at artelobio.com

Corporate Highlights

Artelo Biosciences is a clinical-stage biopharmaceutical company advancing a broad platform of lipid signaling modulation drug candidates to treat pain, cancer, anxiety, depression, and other conditions

NOVEL SCIENCE PORTFOLIO

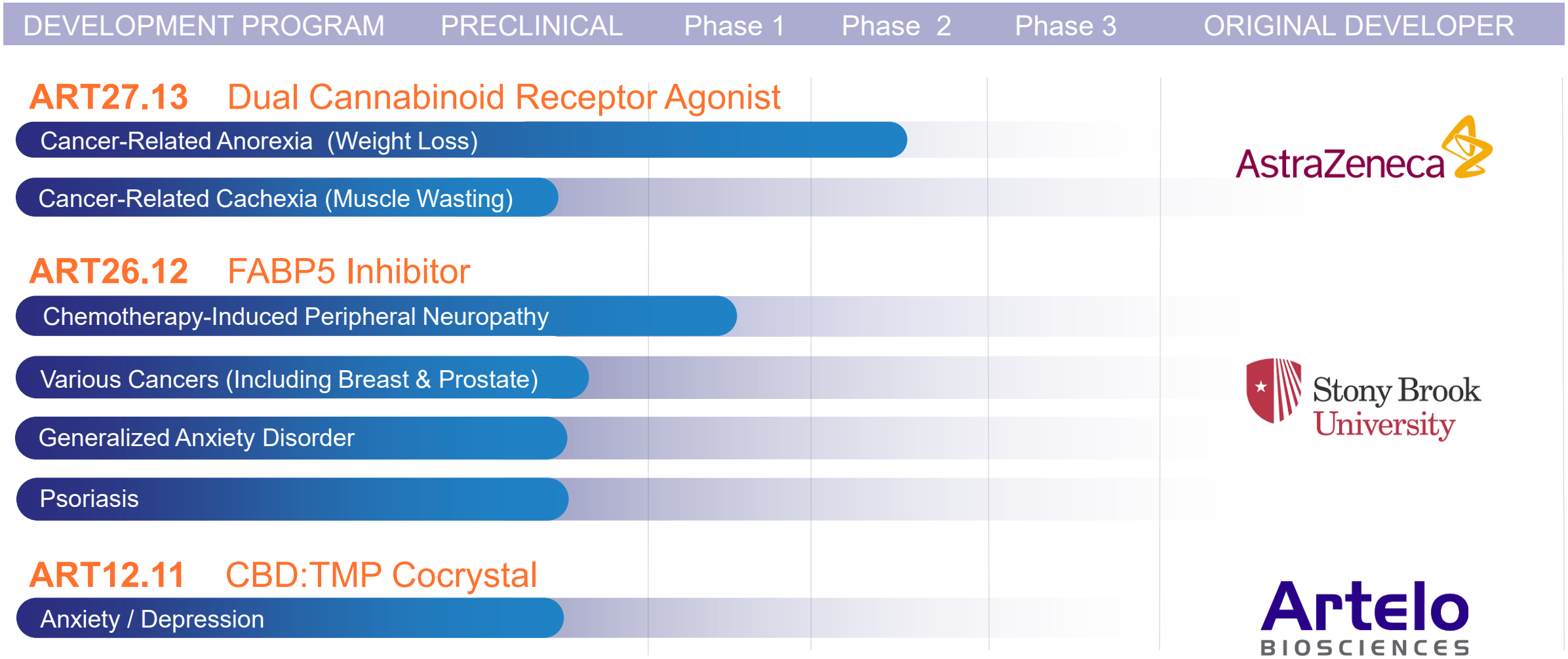
NEAR-TERM CATALYSTS

BILLION DOLLAR MARKETS

ROBUST PATENT ESTATE

PROVEN LEADERSHIP

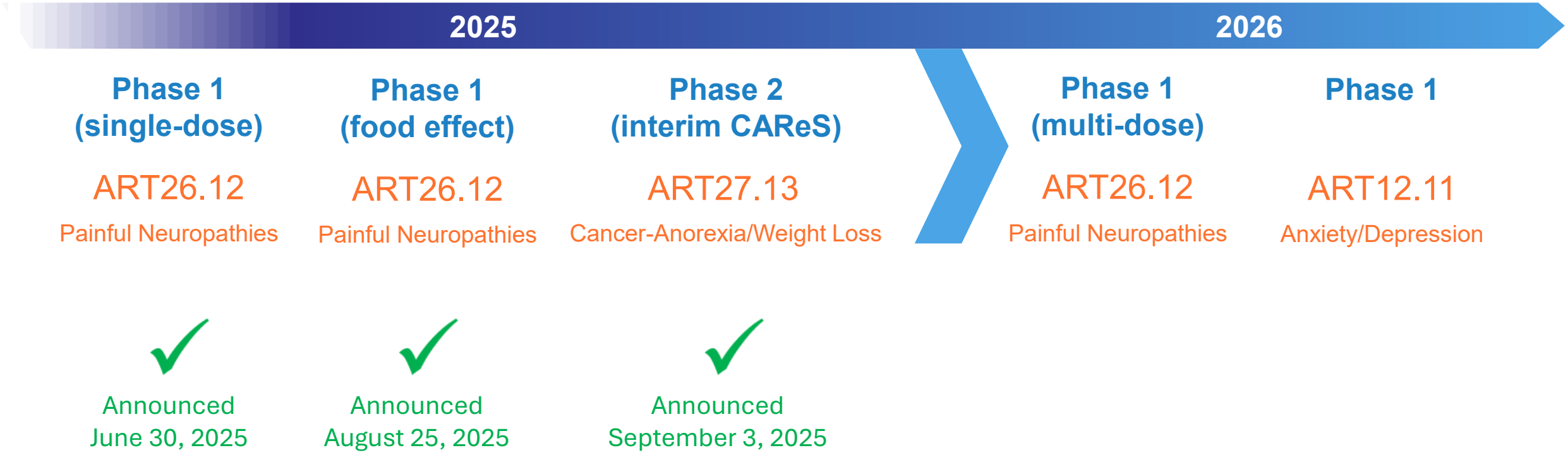
Lipid Signaling Modulation Pipeline



FABP5=Fatty Acid Binding Protein 5; CBD=Cannabidiol; TMP=Tetramethylpyrazine

Near-term Clinical Catalysts

Multiple value-driving milestones expected over the next 12-18 months



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ART27.13

Dual Cannabinoid Receptor Agonist for Cancer-Related Anorexia and Cachexia

ART27.13 Addressing a Significant Need

Target Indication: Cancer Anorexia Cachexia Syndrome (CACS)

CACS is marked by a loss of appetite and weight loss, along with a reduction in muscle mass and fatty tissues affecting up to 80% of advanced cancer patients* with no FDA-approved treatment

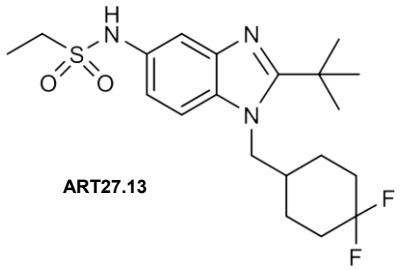
> *"When you pull a pair of trousers up and they just fall right back down again, it sort of hits home how quickly the weight dropped off. That was scary."*

Participant in Phase 1 Artelo-sponsored study

*https://www.cancer.gov/about-cancer/treatment/research/cachexia

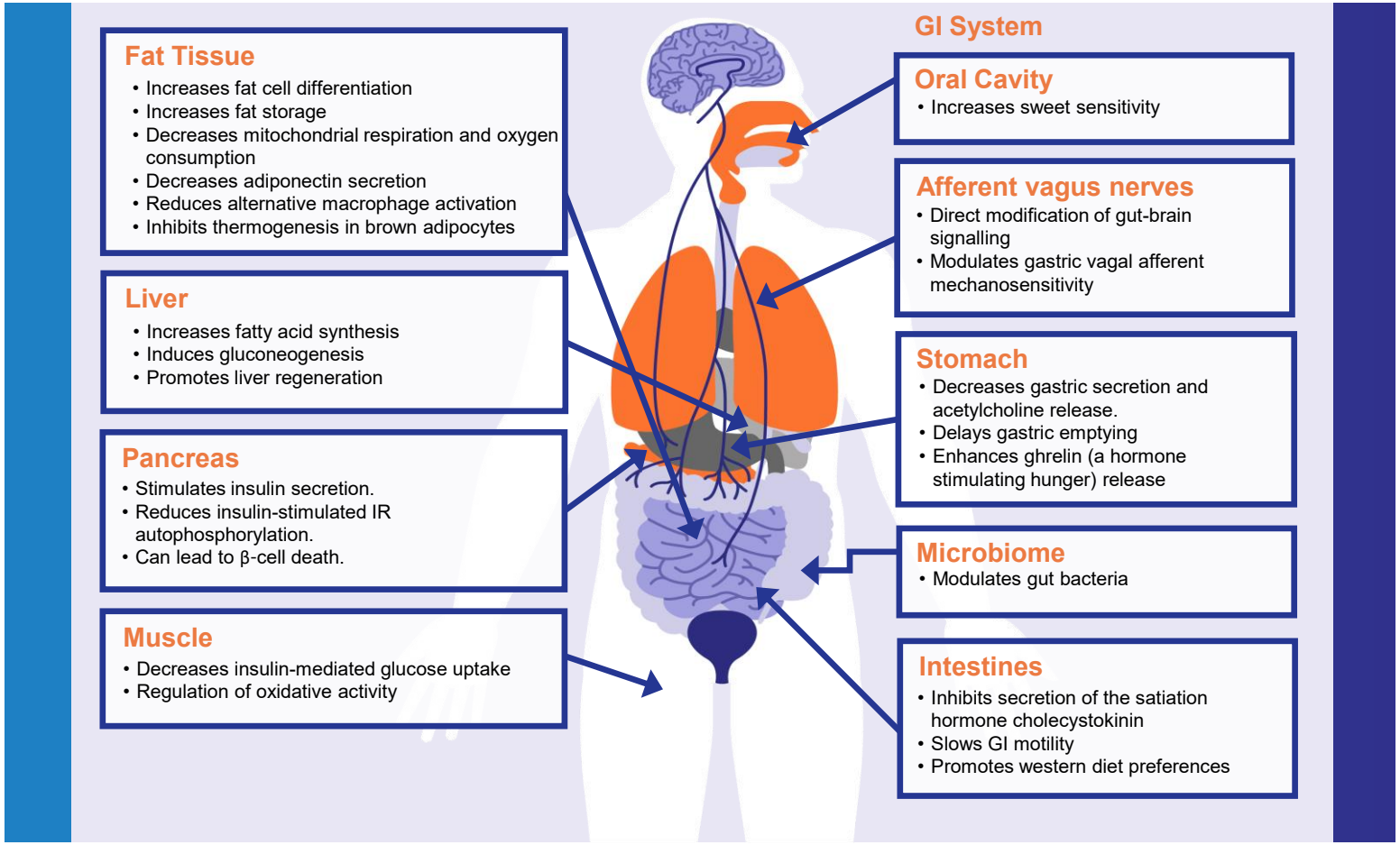
ART27.13 Dual Cannabinoid Receptor Agonist

- Synthetic, dual CB_1/CB_2 full agonist
- Oral dosing once daily
- Peripherally selective to avoid CNS side effects
- Leverages a well-established appetite pathway
- Dose-dependent increase in body weight evidenced in 3 clinical studies
- New chemical entity, a benzimidazole derivative, originally developed by AstraZeneca



ART27.13

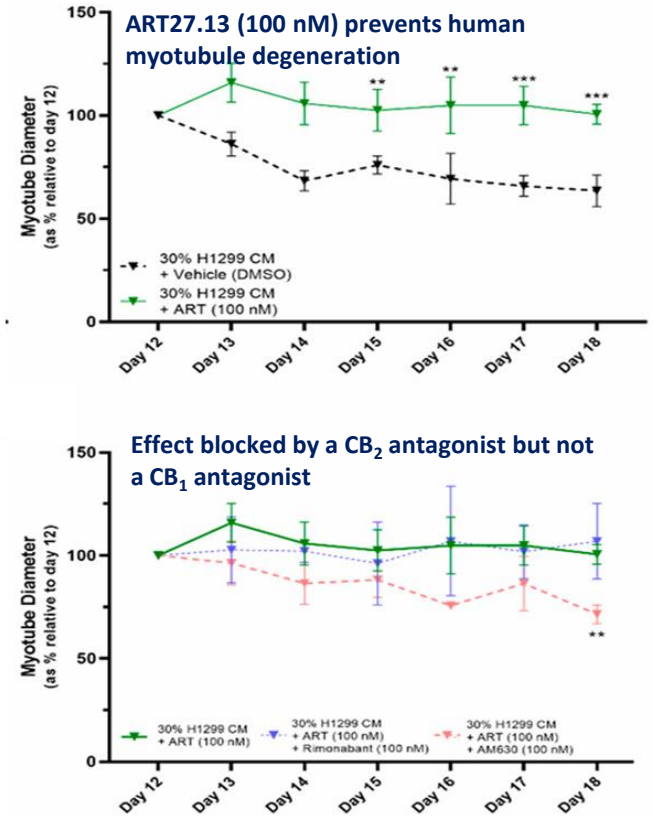
The many effects of peripheral CB_1 activation in promoting appetite, food storage and weight gain



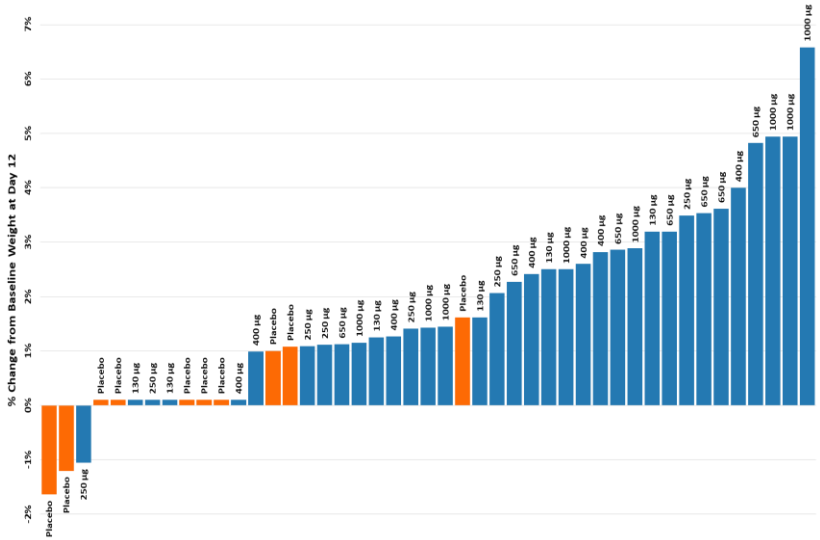
Source: https://www.ncbi.nlm.nih.gov/pubmed/22249824; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6027162/

ART27.13 Pre-clinical and Phase 1 Clinical Evidence

CB_2 agonist effects of ART27.13 prevented tumor induced cachexia muscle degeneration *in-vitro*

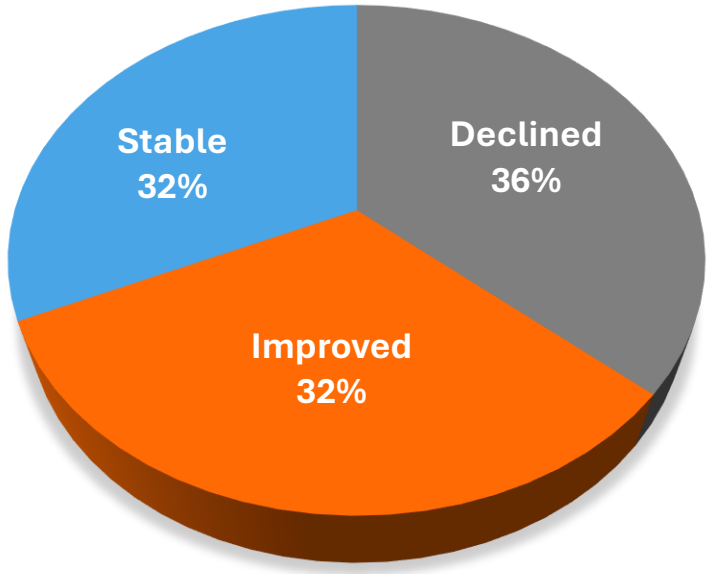


Dose responsive weight increases observed at Day 15 in healthy volunteer study with ART27.13



Observed weight gain ART27.13 versus placebo (P=0.0001)

In CAReS Phase 1, 14/22 (64%) of patients had weight stabilization or weight gain observed at day 28



CAReS = **C**ancer **A**ppetite **Re**covery **S**tudy

Data from pre-clinical studies conducted by R. Porter at Trinity Biomedical Institute

Noone J, Rooney MF, Karavyraki M, Yates A, O'Sullivan SE, Porter RK. *Pharmaceuticals*. 2023; 16(11):1580

Data from a Phase 1 healthy volunteer study conducted by AstraZeneca

Source: Multiple Ascending Dose Phase 1 Study, AstraZeneca, adMare. Data on file.

Data from the CAReS Phase 1 study in cancer patients sponsored by Artelo

Data presented by Professor Barry J. A. Laird, at the 17th International Conference on Sarcopenia, Cachexia, & Wasting Disorders, December 6-8, 2024

ART27.13 The CAReS Trial

Establishing safety, optimal dose, and proof-of-concept in cancer patients with anorexia

Phase 1 (Completed)

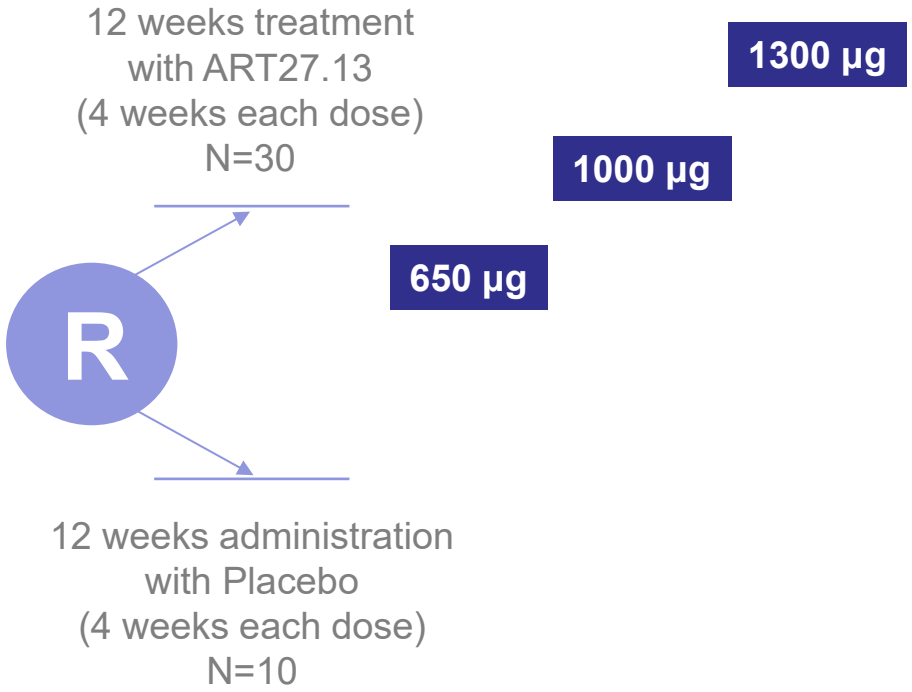
Cancer patients with anorexia
N=24 (6 per dose level)

Phase 2 starting dose established

- 650 µg
- 400 µg
- 250 µg
- 150 µg

Phase 2 (Interim data announced)

Cancer patients with anorexia
N=40 (3:1 randomization)



Cancer Appetite Recovery Study

Evaluating

- Lean body mass
- Weight gain
- Activity
- Anorexia
- QOL
- Safety

R = Randomization; QOL = Quality of Life

CAReS = **C**ancer **A**ppetite **Re**covery **S**tudy

https://www.isrctn.com/ISRCTN15607817

CAReS Phase 1/2 Safety

Phase 1: 27 patients received at least one dose of ART27.13. No events considered as dose limiting toxicities and no fatal AEs related to trial treatment.

The most common (> 1 patient) AEs related to trial drug were somnolence (11%) and dry mouth (11%).

	150 µg	250 µg	400 µg	650 µg
Somnolence	0	1	1	1
Dysaesthesia	0	2	0	0
Disturbance in attention	0	1	0	0
Memory Impairment	0	0	1	0
Dry mouth	0	0	2	1
Diarrhea	0	1	0	0
Dyspepsia	0	1	0	0
Fatigue	0	0	0	1
Overdose	0	1	0	0

All data collected over and up to 12-week dosing period

Phase 2: At interim analysis, 25 patients had received at least one dose of ART27.13. Seven (32%) had AEs considered related to study drug compared to 8 (30%) in Phase 1.

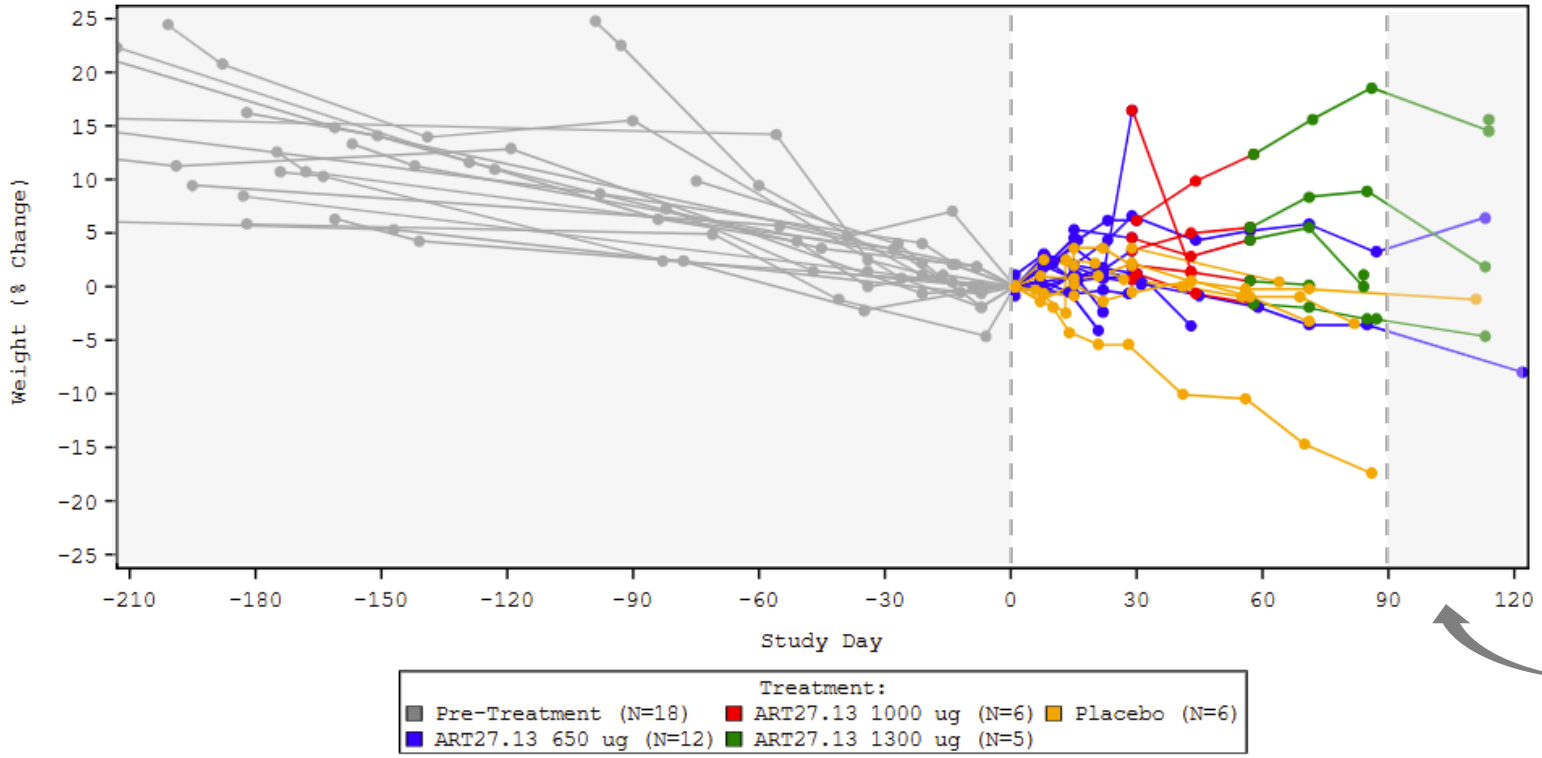
- There were no SAEs and no fatal AEs related to trial treatment
- 4 patients discontinued study drug due to AEs compared to 8 in Phase 1
- The most common (> 2 patients) AEs related to trial drug were vomiting (12%) and dry mouth (12%)
- The safety profile observed in Phase 2 is very similar to that observed in Phase 1, despite doses of up to 1300 µg being administered
- **ART27.13 is well-tolerated with an acceptable safety profile**

CAReS = **C**ancer **A**ppetite **Re**covery **S**tudy

ART27.13 CAReS Phase 2 Results

CAReS inclusion criteria required a documented ≥5% weight loss during the prior 6 months

Weight changes pre-, during and post-treatment



ART27.13 dosing period
up to 12 weeks (90 days)

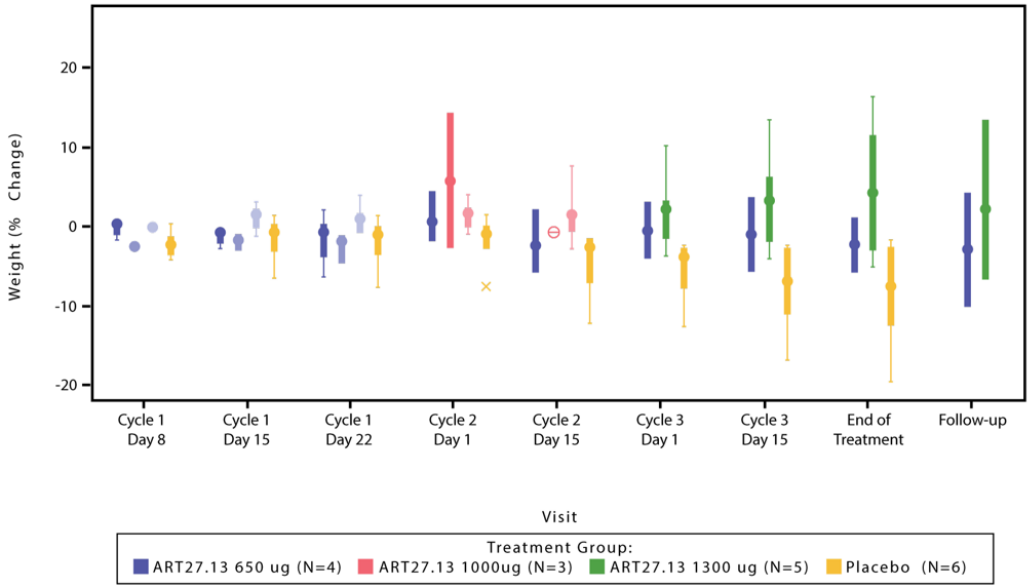
Duration of safety follow up
up to 4 weeks (30 days)

CAReS = **C**ancer **A**ppetite **Re**covery **S**tudy

ART27.13 CAReS Phase 2 Results

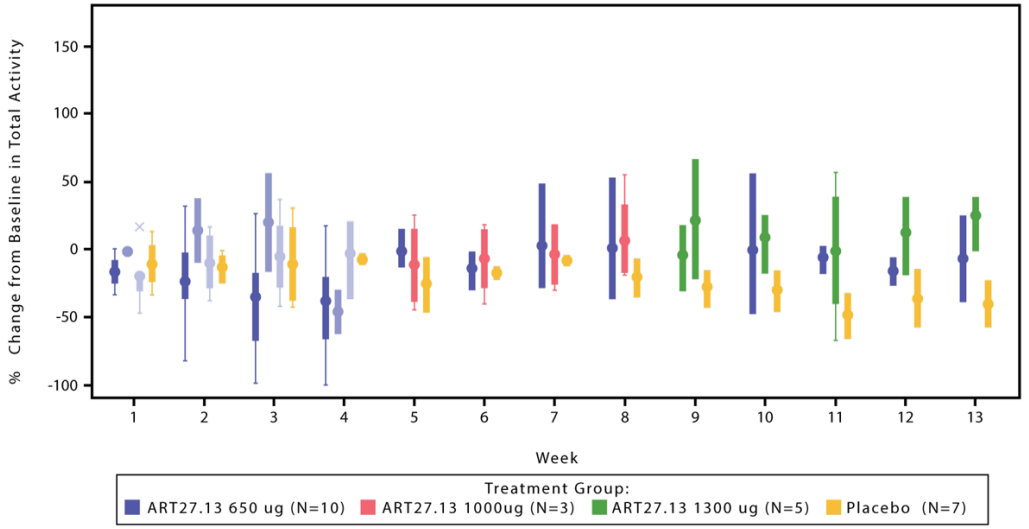
Efficacy versus placebo in lean body mass, weight gain, activity, and well-tolerated up to 1300 µg per day

Change in Weight



At end of treatment there was an average 6% increase in weight in patients who escalated to 1300 ug and a 5% decrease in patients who received placebo

Change in Activity



Activity data captured by *MotionWatch* showed an increase in total activity for patients on active treatment compared to those on placebo

CAReS = **C**ancer **A**ppetite **Re**covery **S**tudy

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ART26.12

Fatty Acid Binding Protein 5 (FABP5) Inhibitor

FABP Inhibitor Platform

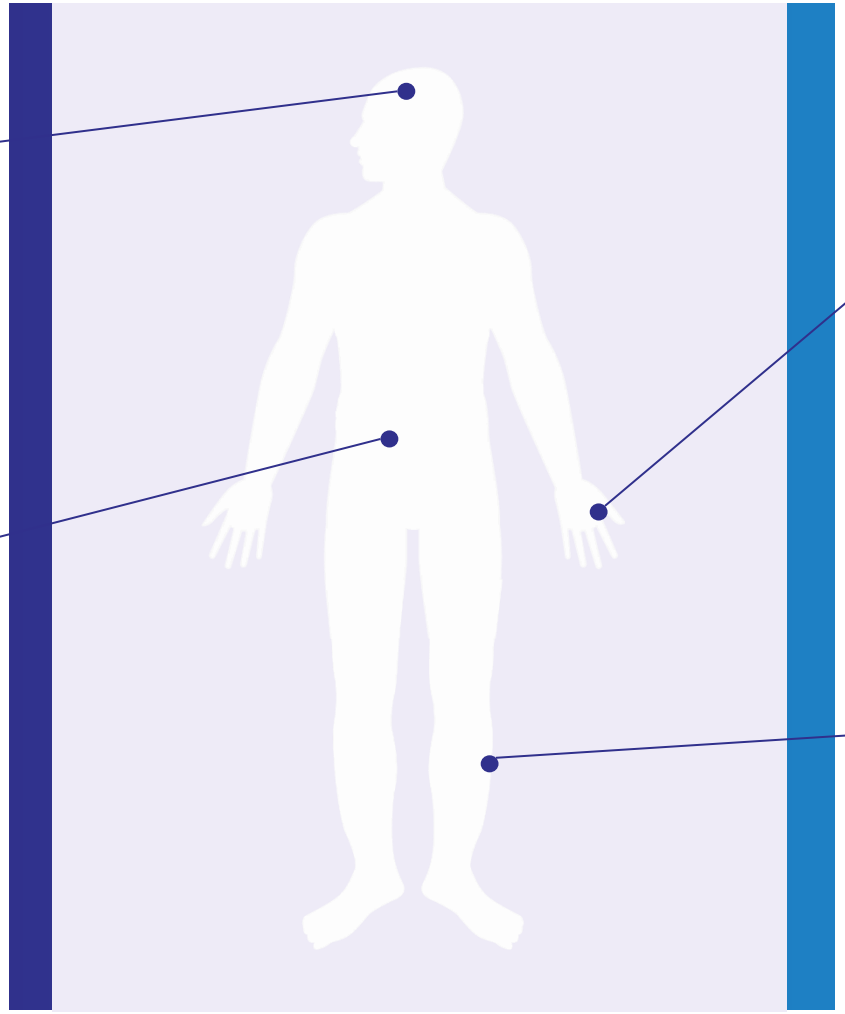
Fatty Acid Binding Proteins are a validated target with potential in multiple therapeutic areas. Artelo has a worldwide exclusive license from Stony Brook University, NY for multiple generations of FABP inhibitors.

Anxiety Disorders

- Generalized Anxiety Disorder
- Depression
- PTSD

Cancer

- Prostate cancer
- Breast cancer
- Colon cancer
- Various other cancers



Pain and Inflammation

- Osteoarthritis
- Chemotherapy Induced Peripheral Neuropathy (CIPN)
- Diabetic neuropathy
- Cancer bone pain

Dermatology

- Psoriasis

ART26.12 Our Lead FABP5 Inhibitor

Target Indication: Chemotherapy-Induced Peripheral Neuropathy (CIPN)

CIPN affects up to 40% of all treated cancer patients* and is marked by extreme nerve pain causing delays, disruption or discontinuation of essential cancer treatment with no currently available FDA approved therapy

Fatty Acid Binding Protein 5 (FABP5) Inhibitor offers potential as a first-in-class, non-opioid, non-psychoactive approach to pain and inflammation

*Staff NP, et. al., Chemotherapy-induced peripheral neuropathy: A current review. Ann Neurol. 2017;81(6):772-781

ART26.12 Strong Pre-Clinical Evidence from Multiple Studies

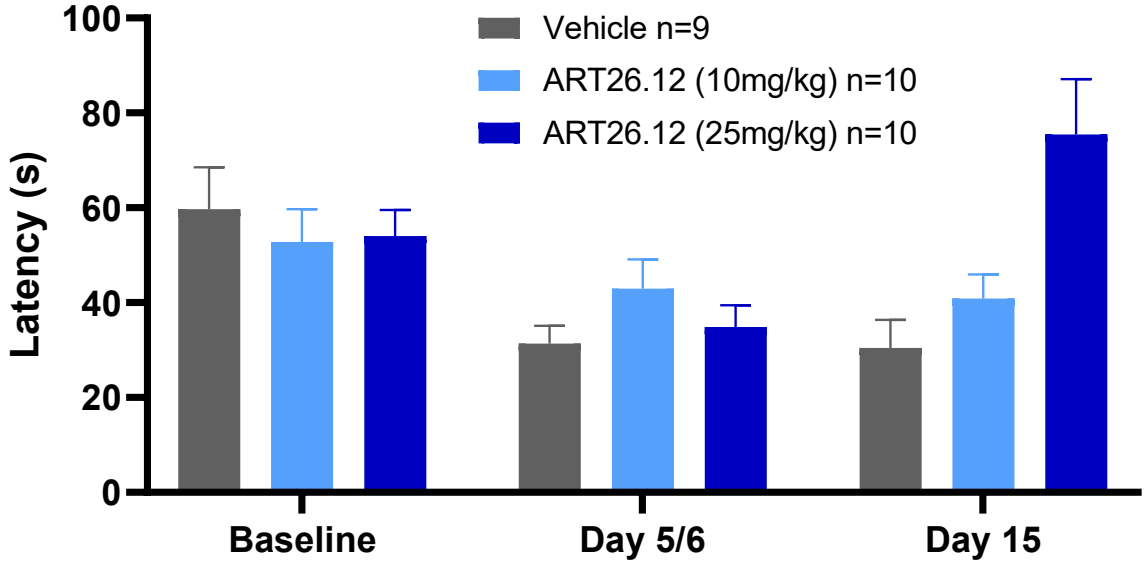
Evidence from five animal studies in peripheral neuropathy with ART26.12 supports Artelo's development strategy for the FABP5 inhibitor as a potential preventative therapeutic for CIPN

ART26.12 administered as a prophylactic dose of 25 mg/kg orally twice daily in multiple CIPN animal studies

- **Significantly reversed cold allodynia** latencies in oxaliplatin induced CIPN by day 15[1]
- **Reduced mechanical and cold allodynia** associated with paclitaxel induced CIPN by day 15[2]

[1] https://www.jpain.org/article/S1526-5900(24)00345-6/fulltext
[2] The Effects of the FABP5 Inhibitor ART26.12 in Paclitaxel-Induced Neuropathy S.E. O'Sullivan, A. Pereira, M. Kaczocha, I. Ojima and A. Yates presented at International Cannabinoid Research Society annual meeting 2023

Oxaliplatin CIPN Coldplate Prevention Study[1]



Values are presented as mean ± s.e.m. (n=9-11).
Study was performed in male Sprague Dawley Rats.

ART26.12 Phase 1 Study Results

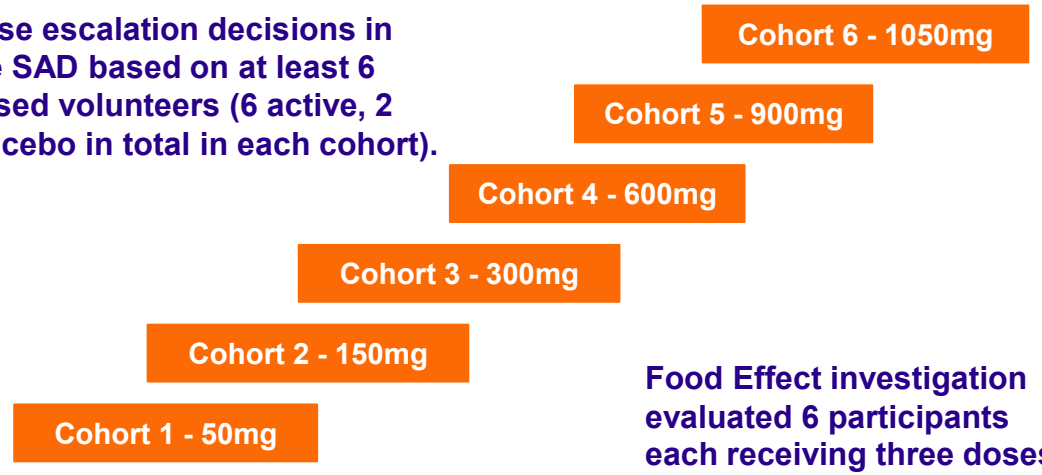
The Phase 1 Single Ascending Dose (SAD) & Food Effect (FE) study was designed to assess the safety, tolerability, and pharmacokinetics of ART26.12 in healthy volunteers. The SAD/FE study enrolled 55 subjects.

Clinical data from completed SAD and preliminary Food Effect study demonstrated:

- **Excellent Safety Profile:** All adverse events (AEs) were mild, transient, and self-resolving and believed by medical staff not related to study drug
- **Predictable Pharmacokinetics:** Plasma analysis confirmed dose-dependent linear absorption
- **Therapeutic Window:** A wide safety margin was observed between estimated therapeutic plasma concentrations and the highest exposure levels achieved.
- **Potential for fed or fasted dosing**

Study Design

Dose escalation decisions in the SAD based on at least 6 dosed volunteers (6 active, 2 placebo in total in each cohort).



Food Effect investigation evaluated 6 participants each receiving three doses.

SAD Study Endpoints

- To evaluate the safety and tolerability of QD ascending oral doses of ART26.12 versus placebo in fasted healthy adult volunteers
  - ART26.12 safety profile understood on single dosing
  - DLT defined on single dosing
- To evaluate the PK and PD profile of oral doses of ART26.12
  - Plasma and urine PK
  - Lipidomic and proteomic biomarkers

Artelo BIOSCIENCES

ART12.11

CBD:TMP Cocrystal

ART12.11 CBD:TMP Cocrystal

Target indication: Anxiety/Depression

Anxiety and depression affects about 20% of adults in the US* and is often characterized by feelings of sadness, hopelessness, worry, or dread

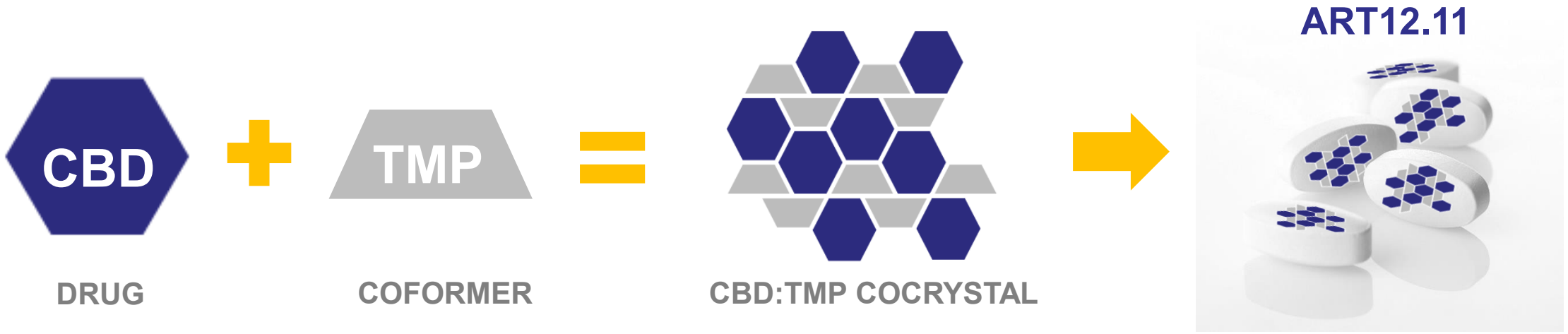
Proprietary CBD:TMP Cocrystal is a combination drug candidate with improved physical properties, pharmacokinetics, and pharmacology

CBD=cannabidiol ; TMP=tetramethylpyrazine

* National Center for Health Statistics. (2024). Report No. 213. Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/data/nhsr/nhsr213.pdf

ART12.11 Multiple Competitive Advantages

CBD:TMP cocrystal solved inherent challenges with CBD in accordance with FDA Guidance



Physical Properties

Developed as an oral solid with improved melting point, solubility, and dissolution compared to CBD alone

Pharmacokinetics

Delivers higher plasma levels of CBD and its major metabolite CBD-7COOH compared to CBD alone and less impact of food effect than CBD alone

Pharmacodynamics

Strong anxiolytic, anti-depressive, and pro-social effects while protecting spatial and short-term memory

Patent Estate

Composition of Matter & Methods of Use issued in US through December 2038 and National Phase approvals ongoing worldwide

ART12.11 Promising Anxiety and Depression Data

Artelo BIOSCIENCES

Superior preclinical efficacy observed in stress-induced anxiety model compared to CBD-alone

Clinical Behavior	Behavioral Test	ART12.11 (3.5 mg/kg CBD + 1.5 mg/kg TMP orally dosed)	CBD-alone (10 mg/kg orally dosed)
Anxiety	Elevated plus maze Light-dark chamber Open field test	✓ Anxiolytic	X No effect
Depression	Sucrose preference Forced swim test	✓ Anti-depressive (reversed stress effect)	X No effect
Sociability	Social motivation Social discrimination	✓ Pro-social (reversed stress effect)	X No effect
Cognition	Novel-object recognition Spontaneous alternation	✓ Protected memory (reversed stress effect)	X No effect or impaired spatial memory

✓ **Positive Effect**

X **No Effect**

X **Negative Effect**

Data presented at Society for Neuroscience (SfN) 2023 and available on Artelo's website (artelobio.com).

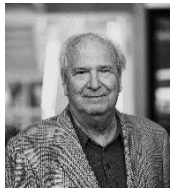
Leadership

Proven track record of value creation for shareholders

MANAGEMENT TEAM

Gregory Gorgas
President & CEO, Director
Biogen IDEC, Chiron, Cetus, Upjohn, MAST

Mark Spring, CPA
Chief Financial Officer
LENZ, Hyperion, Prometheus, Caremark, Baxter



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Saoirse O'Sullivan, PhD
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Richard K. Porter, PhD
Associate Professor, Biochemistry & Immunology, Trinity Biomedical Sciences Institute, Trinity College Dublin, Ireland

Company Capitalization

Capitalization (as of 10/31/2025)	
Common Shares Outstanding	**2,010,038**
Shares issuable upon conversion of convertible notes	**219,091**
Warrants (WAEP $5.31)	**1,430,766**
Options (WAEP $10.94)	**230,342**
Total	**3,890,237**

Cash, Cash Equivalents, and Marketable Securities (as of 9/30/2025): **$1.7M**

Convertible Debt (as of 9/30/2025; maturity 4/28/2026): **$0.9M**

Fully diluted ownership of Officers/Directors (as of 10/31/2025)**:** **5%**

WAEP = Weighted Average Exercise Price

Artelo Investment Opportunity Summary

Artelo BIOSCIENCES

NOVEL SCIENCE PORTFOLIO

- **ART27.13** Benzimidazole derivative in Phase 2
- **ART26.12** FABP5 inhibitor in Phase 1
- **ART12.11** CBD:TMP cocrystal in late preclinical

NEAR-TERM MILESTONES

- **1H25** ART26.12 SAD/FE (single ascending dose & food effect)
- **2H25** ART27.13 Interim Phase 2 CAReS Data
- **1H26** ART26.12 MAD (multiple ascending dose)
- **2H26** ART12.11 Phase 1

BILLION DOLLAR MARKETS

- CIPN **$2B**
- Cancer anorexia **$3B+**
- Prostate cancer **$13B**
- Breast cancer **$33B**
- Psoriasis **$31B**
- Anxiety **$13B**
- PTSD **$13B**

ROBUST PATENT ESTATE

38 patents issued

51 patents pending (includes owned, licensed, and partnered)

Composition of matter and broad method claims ensure strong prospects for meaningful worldwide market exclusivity

PROVEN LEADERSHIP

Experienced team of biopharmaceutical executives, drug developers, and top tier researchers

Proven track records in developing and commercializing high-impact federally regulated therapeutics

Artelo BIOSCIENCES®

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