



Artelo

BIOSCIENCES®

A clinical stage biopharmaceutical company
focused on developing and commercializing
a portfolio of novel therapeutic candidates

Nasdaq: ARTL

October 2020

Forward-Looking Statements

This presentation of Artelo Biosciences, Inc. (the "Company") contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, Section 21E of the Securities Exchange Act of 1934 and Private Securities Litigation Reform Act, as amended, including 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, 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.

These statements may be identified by the use of forward-looking expressions, including, but not limited to, "expect," "anticipate," "intend," "plan," "believe," "estimate," "potential," "predict," "project," "should," "would" and similar expressions and the negatives of those terms. These statements relate to future events or our financial performance and involve known and unknown risks, uncertainties, and other factors which may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include those set forth in the Company's filings with the Securities and Exchange Commission (the "SEC"), including our ability to raise additional capital in the future. Prospective investors are cautioned not to place undue reliance on such forward-looking statements, which speak only as of the date of this presentation. The Company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise, except to the extent required by applicable securities laws.

Free Writing Prospectus

This presentation highlights basic information about us and the offering. Because it is a summary that has been prepared solely for informational purposes, it does not contain all of the information that you should consider before investing in our company. Except as otherwise indicated, this presentation speaks only as of the date hereof.

This presentation does not constitute an offer to sell, nor a solicitation of an offer to buy, any securities by any person in any jurisdiction in which it is unlawful for such person to make such an offering or solicitation.

Neither the SEC nor any other regulatory body has approved or disapproved of our securities or passed upon the accuracy or adequacy of this presentation. Any representation to the contrary is a criminal offense.

This presentation includes industry and market data that we obtained from industry publications and journals, third-party studies and surveys, internal company studies and surveys and other publicly available information. Industry publications and surveys generally state that the information contained therein has been obtained from sources believed to be reliable. Although we believe the industry and market data to be reliable as of the date of this presentation, this information could prove to be inaccurate. Industry and market data could be wrong because of the method by which sources obtained their data and because information cannot always be verified with complete certainty due to the limits on the availability and reliability of raw data, the voluntary nature of the data gathering process and other limitations and uncertainties. In addition, we do not know all of the assumptions that were used in preparing the forecasts from the sources relied upon or cited herein.

We have filed a Registration Statement on Form S-1 (File No. 333-249083) with the SEC, including a preliminary prospectus dated September 28, 2020 and an amended preliminary prospectus on Form S-1/A, dated October 5, 2020 (the "Preliminary Prospectus"), with respect to the offering of our securities to which this communication relates. Before you invest, you should read the Preliminary Prospectus (including the risk factors described therein) and, when available, the final prospectus relating to the offering, and the other documents filed with the SEC and incorporated by reference into the Preliminary Prospectus, for more complete information about us and the offering. You may obtain these documents, including the Preliminary Prospectus, for free by visiting EDGAR on the SEC website at <http://www.sec.gov>.

Alternatively, we or any underwriter participating in the offering will arrange to send you the prospectus if you request it by calling (212) 409-2000 or by email at prospectus@ladenburg.com.

Risk Factors

Investing in our securities stock involves a high degree of risk. You should carefully consider the risks described below, as well as other information included in our S-1 Registration Statement and 2019 Annual Report on Form 10-K, including our financial statements and the related notes, and the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations," any of which may be relevant to decisions regarding an investment in or ownership of our securities. The occurrence of any of these risks could have a significant adverse effect on our reputation, business, financial condition, results of operations, growth and ability to accomplish our strategic objectives. We have organized the description of these risks into groupings in an effort to enhance readability, but many of the risks interrelate or could be grouped or ordered in other ways, so no special significance should be attributed to the groupings or order below.

- Our ability to continue our operations requires that we raise additional capital and our operations could be curtailed if we are unable to obtain the additional funding as or when needed.
- We will need to raise additional financing to support our business objectives. We cannot be sure we will be able to obtain additional financing on terms favorable to us when needed, or at all. If we are unable to obtain additional financing to meet our needs, our operations may be adversely affected or terminated.
- If we fail to comply with our obligations under our patent licenses with third parties, we could lose license rights that are vital to our business.
- Changes in regulatory requirements or other unforeseen circumstances may impact the timing of the initiation or completion of our clinical trials.
- We have no mature product candidates and may not be successful in licensing any.
- We will need to rely on third parties to conduct our preclinical research and clinical trials and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such research or trials.
- Any product candidates we develop may be subject to U.S. controlled substance laws and regulations and failure to comply with these laws and regulations, or the cost of compliance with these laws and regulations, may adversely affect the results of our business operations, both during clinical development and post approval, and our financial condition.
- Clinical trials of cannabinoid-based product candidates are novel with very limited or non-existing history; we face a significant risk that the trials will not result in commercially viable products and treatments.

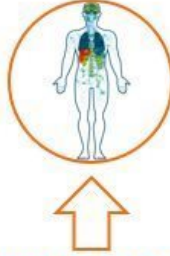
Artelo Biosciences, Inc.



Clinical stage international biopharmaceutical company developing and commercializing a portfolio of novel therapeutic candidates targeting endogenous signaling pathways



Artelo Biosciences headquarters, La Jolla, CA



Artelo Biosciences R&D office, Alderly Park, Manchester, UK

"Modulating ECS* activity holds therapeutic promise for a broad range of diseases, including neurodegenerative, cardiovascular and inflammatory disorders, obesity/metabolic syndrome, cachexia, chemotherapy-induced nausea and vomiting, tissue injury and pain, among others."

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Quote: Laboratory of Physiologic Studies, National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health, Bethesda, Maryland, USA – May, 2013
*Endocannabinoid System (ECS)

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Product Candidate Pipeline



Product Candidate	Pre-clinical	Phase 1	Phase 2	Market	Patents
ART 27.13 GPCR Agonist	Anorexia associated with Cancer			Cancer Anorexia Cachexia Syndrome (CACS): \$2B	2 issued 1 planned
ART 26.12 FABP5 Inhibitor	Prostate Cancer Breast Cancer			Prostate Cancer: \$9B Breast Cancer: \$18B	3 issued 14 pending 2 planned
ART 12.11 Cocrystal CBD:TMP	PTSD Inflammatory Bowel Disease			Post-Traumatic Stress Disorder: \$7B IBD (Crohn's & Colitis): \$7B	1 issued 3 pending

Therapeutics market size based upon total global annual Rx sales in 2016, 2017 or 2018 rounded to nearest billion

Development Highlights and Scientific Validation



Product Candidate	Original Developer	Licensors	Validation Highlights
ART 27.13 GPCR Agonist	 AstraZeneca	 adMare	Five Phase 1 studies in 205 subjects conducted by AstraZeneca 12 day multiple ascending dose study in healthy volunteers demonstrated statistically significant (p=0.0001) increases in body weight at all dose levels versus placebo
ART 26.12 FABP5 Inhibitor	 Stony Brook University	 Stony Brook University	Program supported by \$3.8M NIH funding February 2020 - \$4.2 million NCI grant for FABP5 inhibitor development in prostate cancer
ART 12.11 Cocrystal CBD:TMP	 Artelo BIOSCIENCES		First and only patent issued by USPTO for a novel cocrystal composition of CBD Multiple potential applications in major indications within regulated drug development pathway



Accomplished and Anticipated Milestones

1H 2020 ✓ ART26.12 Stony Brook awarded \$4.2M NCI grant for FABP5 inhibitors in prostate cancer

✓ ART12.11 USPTO issued patent (composition of matter) for CBD:TMP cocrystal

2H 2020 ✓ ART26.12 Added 12 new Generation 3 compounds to Stony Brook license

✓ ART12.11 Initiated key non-clinical studies

✓ ART27.13 Successful drug product manufacture

✓ ART27.13 Positive Ethics Committee review for CAReS trial



□ ART26.12 Expand patent estate (compositions and method claims)

1H 2021 □ ART27.13 Enrollment of CAReS clinical study for anorexia in cancer patients

□ ART26.12 Initiate regulatory enabling non-clinical studies

2H 2021 □ ART27.13 Initial clinical data from cancer anorexia study – CAReS (Phase 1b)

□ ART12.11 Results from key non-clinical studies

□ ART27.13 Randomized clinical data from CAReS (Phase 2a)

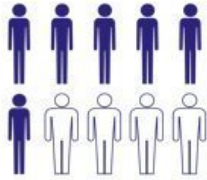


ART 27.13
CANCER ANOREXIA CLINICAL PROGRAM

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Cancer Anorexia and Cachexia Syndrome (CACS) Remains a High Unmet Need



Cancer-related anorexia affects greater than 60% of advanced stage cancer patients^{1,4,5}.

"It is characterized by loss of appetite, weight loss and tissue wasting, accompanied by a decrease in muscle mass and adipose tissue, impoverishing quality of life and often preceding the patient's death."⁶

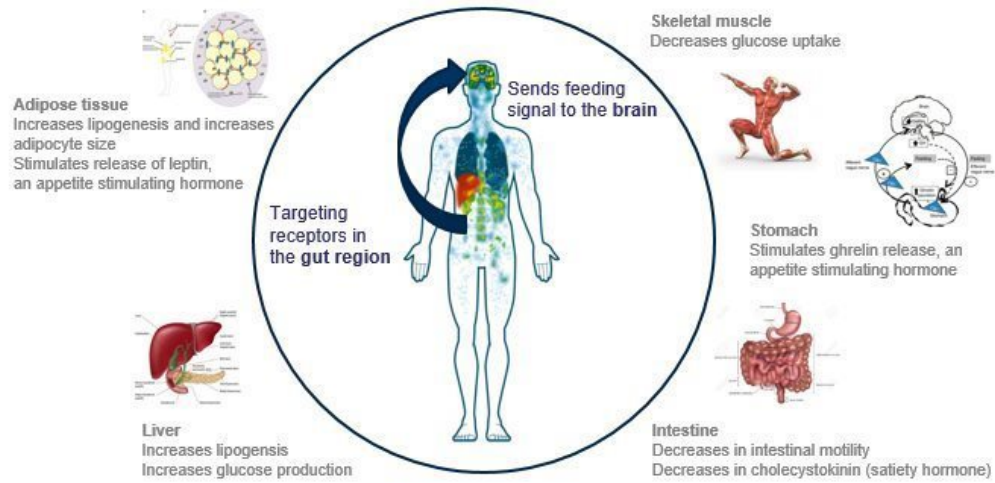
Therapeutic market for CACS is estimated at \$2 billion globally and could increase significantly with a proprietary new market entry²



As of October 2020, there are no approved therapies for CACS in major global markets. Some drugs are used off-label with limited success³

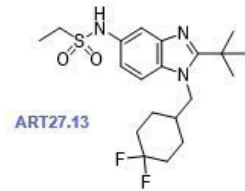
- Appetite stimulants
- Anabolic agents
- Cytokine & metabolic inhibitors

Link Between GPCR Receptor Activation and Appetite is Well-Established



ART27.13 is Differentiated Among Clinical Programs Targeting CACS

High Potency GPCR Agonist



ART27.13

- **Synthetic New Chemical Entity**
- **Peripherally restricted/selective**
- **Dual CB₁/CB₂ receptor full agonist**

VS

THC

**PPP011-kit
(Tetra Bio Pharma)**

- Synthetic THC+CBD (Caumz)
- 1 capsule inhaled 3 times daily with a vaporizer device
- Phase 3 cancer cachexia interventional study with 334 participants (NCT04001010)
- Recruitment status: Not yet recruiting

**Cannabics SR 5 mg
(Cannabics)**

- Oral, small-molecule THC
- Delivery via a proprietary, sustained-release capsule
- Phase 2A CACS trial completed April 2018 (NCT02359123)

Ghrelin

**Anamorelin/ONO-7643
(Helsinn)**

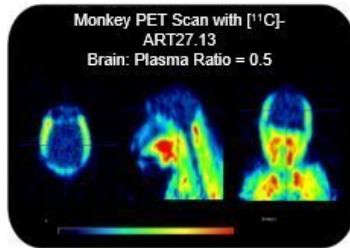
- Brand name: Adlumiz
- Ghrelin-receptor agonist, targets the growth hormone secretagogue receptor 1a
- Two CACS studies:
 - Phase 2: Fatigue in solid tumors (NCT03035409)
 - Phase 2/3: Anorexia in NSCLC (NCT03637816)

**Macimorelin
(Aeterna Zentaris)**

- Brand name: Macrilen
- Ghrelin mimetic (also known as growth hormone secretagogue)
- FDA approved in 2017 for the diagnosis of adult growth hormone deficiency
- Phase 2 study for cachexia in adults with incurable solid tumors (NCT01614990)

Synthetic GPCR Agonist Rationally Designed for an Attractive Safety Profile

Peripheral acting ART27.13 avoids undesired CNS effects by targeting the body, not the brain



Enables systemic metabolic effects while minimizing central nervous system mediated toxicity

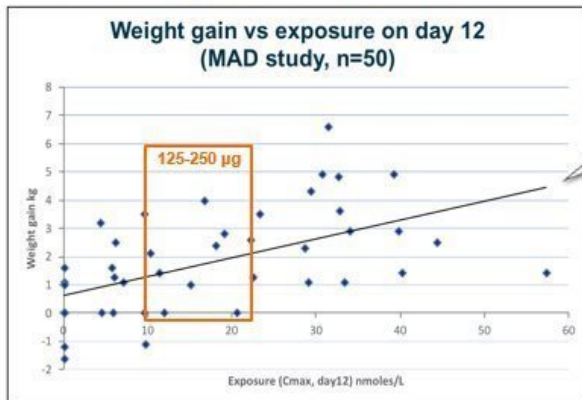
Acceptable side effects profile at the intended dose for the planned phase 2 study in cancer anorexia

Side effects	Placebo	ART27.13 (250 µg)
Mild	91%	89%
Moderate	9%	10%
Severe	0%	1%
# Events/subjects	121/10	169/8

MAD = Multiple Ascending dose study with 8 subjects receiving ART27.13 at 250 µg and 10 receiving placebo

Correlation of Exposure to Weight Gain Observed in Phase 1 Study

Feeding and weight gain effect significantly different between ART27.13 and placebo



Multiple ascending dose (MAD) clinical study observed weight gain slope is significantly different from flat line of placebo (p=0.0001)

Over 12 days, 25% of subjects at the target dose for the planned phase 2 study gained 3% or greater of their baseline body weight

CAReS Phase 1b/2a Study

- Study:** A Phase 1b/2a, Randomized, Placebo-Controlled Trial of the Synthetic Cannabinoid ART27.13 in Patients with Cancer Anorexia and Weight Loss
- Objectives:** Phase 1b - Determine the most effective, safe dose (recommended Phase 2 dose, or RP2D) to be used in Stage 2
Phase 2a - Determine point estimates of activity of ART27.13 in terms of weight gain, lean body mass, and improvement of anorexia at the RP2D
- Regulatory:** Clinical Trials Application required in UK. FDA and Health Canada have already reviewed protocol concept and had no objections (option to file IND or equivalent in Canada as needed)
- Size:** Up to 49 subjects
- Sites:** All clinical sites in UK (option to expand with potential sites in Canada and US)
- Investigator:** Barry J. A. Laird, M.D., Institute of Genetics and Molecular Medicine, University of Edinburgh, Scotland
- Cost:** <\$3M
- Duration:** Projected to be 6 months for Phase 1b data and 6 months for Phase 2a results (12 months total)



ART 26.12
FABP5 INHIBITOR PROGRAM

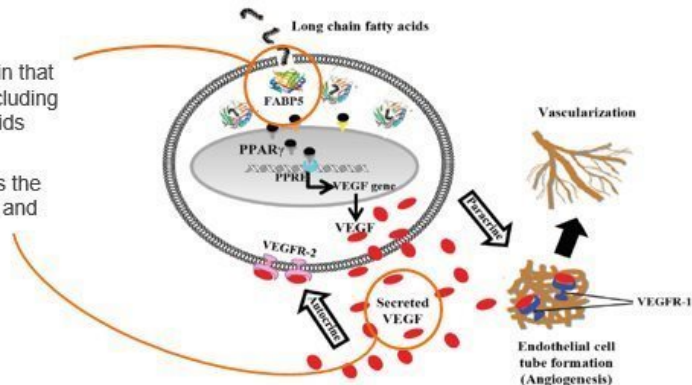
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Lipid Signaling Pathways are a Next-Generation Target for Cancer Therapeutics

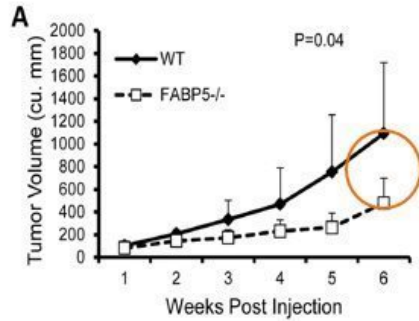
FABP5 inhibitor program was developed at Stony Brook University, supported by \$3.8M NIH funding and recently awarded \$4.2M NCI grant for development in prostate cancer

- FABP5 is an intracellular protein that serves as a carrier for lipids including endocannabinoids and fatty acids
- Inhibition of FABP5 suppresses the growth and migration of breast and prostate cancers
- Modulating lipid signaling has the potential to be the next revolution in cancer therapeutics



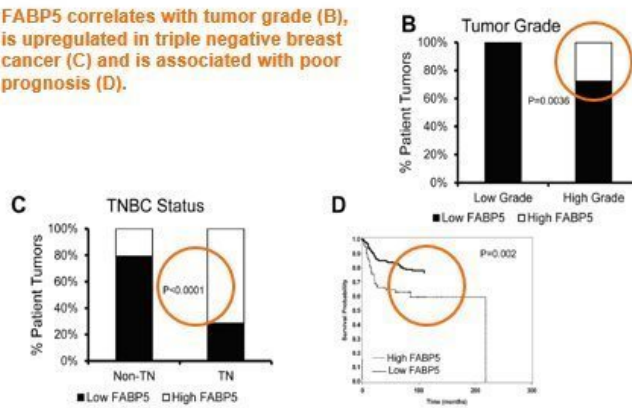
FABP5 is a Validated Target in Breast, Prostate and Cervical Cancer

Genetic silencing of FABP5 is anti-tumoral (A)



WT = Wild Type.

FABP5 correlates with tumor grade (B), is upregulated in triple negative breast cancer (C) and is associated with poor prognosis (D).

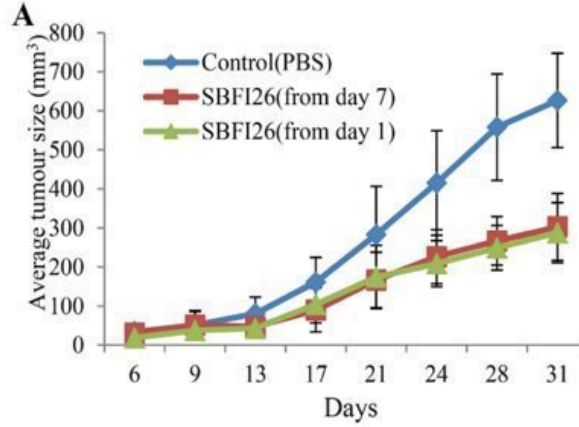
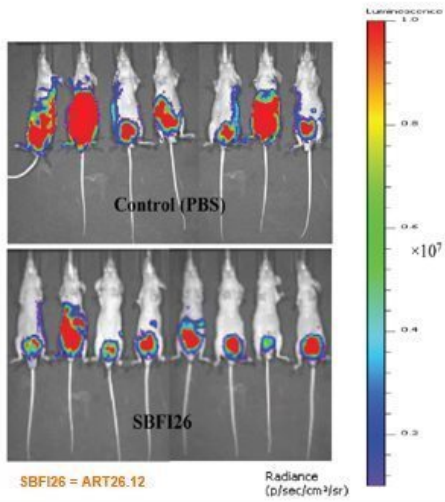


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Sources: Chart A: Powell et al., 2015 Oncotarget vol 6, no. 8 p6373-6385; Charts B, C, D: Data from breast cancer. Liu et al., 2011; Levi et al., 2013; Powell et al., 2015; Gualta-Esteruelas et al., 2017. Similar findings published in prostate and cervical cancer. Forootan et al., 2010; Jeong et al., 2012. Note: TNBC = Triple Negative Breast Cancer

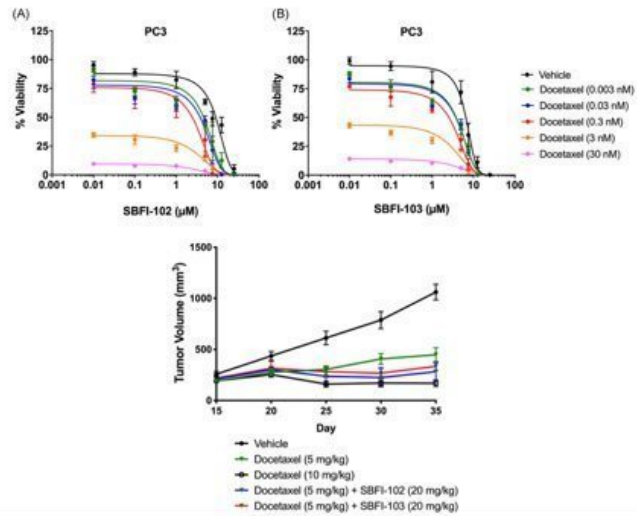
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FABP5 Inhibitor Monotherapy Decreases Tumor Growth in Prostate Cancer Model



FABP5 Inhibitors and Taxanes Produce Synergistic Inhibition in Prostate Cancer

- FABP5 inhibitors combined with docetaxel or cabazitaxel produce synergistic cytotoxicity in numerous prostate cancer cell lines *in vitro*
- FABP5 inhibitors combined with docetaxel potentiate the antitumor effects of docetaxel *in vivo* in nude mice implanted with PC3 cells
- Ability of these drugs to synergize could lead to new combination therapies with enhanced tumor-suppressive efficacy





ART 12.11
PROPRIETARY CBD:TMP COCRYSTAL PROGRAM

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Patented CBD:TMP Cocystal with Enhanced Pharmaceutical Properties

Leverages an innovative pharmaceutical strategy to support blockbuster potential for PTSD

CBD:TMP Cocystalization



CBD:TMP Cocystal

CBD has been shown in numerous clinical studies to be anxiolytic and improve sleep; in preclinical studies, CBD has been shown to block anxiety-related REM sleep alterations

CBD cocystal's coformer (TMP) has preclinical efficacy evidence in PTSD as a single agent

Blockbuster Cocystals

Therapeutic	Innovator	FDA Approval	Indication	Annual Sales
Entresto [®]	Novartis	2015	Heart Failure	>\$1B global ¹
Lexapro [®]	Forest Labs	2002	Depression Anxiety	\$2.3B US ²

Patent Status

US – Issued composition of matter patent with term through December 10, 2038

PCT – National phase filings underway

Taiwan – Application filed

PTSD is Increasing Across the Globe and a Significant Unmet Need

“The urgent need to find effective pharmacologic treatments for PTSD should be considered a national mental health priority.”

Post-Traumatic Stress Disorder

- Anxiety disorder caused by very stressful, frightening or distressing events
- Often manifests in anxiety symptoms, insomnia and isolation
- Pre-pandemic affected 7-8% of American adult population
- “A third of Americans now show signs of clinical anxiety or depression, Census Bureau finds amid coronavirus pandemic.” – The Washington Post May 26, 2020
- “...when we are faced with mass trauma, such as COVID-19, even a significant minority of traumatized individuals will mean that the mental health burden will be enormous.”
- “...healthcare workers could also develop acute stress disorders, potentially degenerating into chronic PTSD.”
- Common treatments include antidepressants, anxiolytics, CBD, sleep medications, mood stabilizers, narcotics, and non-narcotic pain drugs. Only two FDA approved drugs: SSRIs



Managing Stress Associated with the COVID-19 Virus Outbreak

Impact of the COVID-19 Outbreak on Individuals and Communities

The COVID-19 (coronavirus) outbreak has the potential to increase stress and anxiety, both because of the fear of catching the virus and also because of uncertainty about how the outbreak will affect us socially and economically. There are practical steps you can take to improve your wellbeing.

Coping with the Stress of COVID-19

Dealing with stress reactions caused by the COVID-19 virus outbreak can improve your health, quality of life, and wellbeing. The following evidence-informed principles have been shown to be related to better outcomes in many adverse situations (Pruitt et al., 2007). There are key actions within each element that might be especially helpful for those affected by the COVID-19 outbreak (Weissman et al. 2006; Gonzales, 2003). It's not necessary to have all elements in place but implementing some of the following suggestions may help you deal with the stress caused by the COVID-19 virus.

Increase Sense of Safety

Reduce anxiety with healthy actions that make you feel safer. The Centers for Disease Control and Prevention.

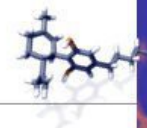


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Company Capitalization (Nasdaq: ARTL)



Capitalization as of 8/31/2020 (fiscal year end)

Common Shares Outstanding	4,991,587
Warrants (WAEP \$8.12)	2,334,937
Options (WAEP \$3.57)	281,834
Total	7,608,358



Cash Balance **\$2.1M***
(No Debt)

Proven Leadership



MANAGEMENT TEAM



GREGORY GORGAS
President & CEO, Director
BiogenIdec, Chiron, Cetus, Upjohn
*Proven global biopharma leader
with four first-in-class launches*



STEVEN D. REICH, MD
Chief Medical Officer
Pfizer, Ligand, Biogen, PAREXEL
*Clinical track record in academia,
CRO, and pharmaceutical industry*



JASON BAYBUTT
SVP, Finance
PubCo Reporting



RANDY SCHRECKHISE
VP, Finance & Operations
Ardea, Human Genome Sciences,
aTyr, Abilita, Trius, ZymoGenetics



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HSBC, Medical Staff Ireland, SFR
Global Technologies, Nursing Station

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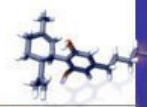


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Company Summary



NOVEL DRUG PIPELINE

Developing federally regulated therapeutics from cutting edge science focused on the endocannabinoid system

- Cannabinoid Agonist
- Novel Protein Inhibitor
- CBD Cocrystal

Risk mitigated by:

- Development stage
- Probability of success
- Mechanism of action



ROBUST PATENT ESTATE

Comprehensive issued (6) and pending (16) patents (includes owned and licensed)

Anticipating filing additional patent applications / receiving issued patents in 2020

Composition of matter and broad claims ensure meaningful worldwide market exclusivity



NEAR-TERM MILESTONES

Clinical milestone readout expected for lead program in 2021

Multiple pre-clinical achievements planned over next 12-18 months

Anticipating significant value inflections over next 1-2 years

- Multiple INDs
- Phase 2 results
- Initiate phase 3



BILLION DOLLAR MARKETS

Target indications for the portfolio are in multi-billion dollar markets

- Cancer/anorexia \$2B
- IBD \$7B
- PTSD \$7B
- Prostate cancer \$9B
- Breast cancer \$18B



PROVEN LEADERSHIP

Experienced team of biopharmaceutical executives and researchers

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



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For more information:
www.artelobio.com
