



Corporate Overview

September 2022

FIRST-IN-CLASS DRUG CANDIDATES

With dermatology, oncology, anti-inflammatory, and antibiotic applications

Safe Harbor

Forward-Looking Statements

This presentation contains forward-looking statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 including, without limitation, statements concerning future product development plans, including with respect to specific indications; statements regarding the therapeutic potential and capabilities of the StingRay System; future regulatory developments; and any other statements which are other than statements of historical fact. These statements involve risks, uncertainties and assumptions that could cause actual results and experience to differ materially from anticipated results and expectations expressed in these forward-looking statements. The Company has in some cases identified forward-looking statements by using words such as “anticipates,” “believes,” “hopes,” “estimates,” “looks,” “expects,” “plans,” “intends,” “goal,” “potential,” “may,” “suggest,” and similar expressions. Among other factors that could cause actual results to differ materially from those expressed in forward-looking statements are risks related to conducting pre-clinical studies and clinical trials and seeking regulatory and licensing approvals in the United States and other jurisdictions, including without limitation that compounds and devices may not successfully complete pre-clinical or clinical testing, or be granted regulatory approval to be sold and marketed in the United States or elsewhere; prior test results may not be replicated in future studies and trials; the Company’s need for, and the availability of, substantial capital in the future to fund its operations and research and development, including the amount and timing of the sale of shares of common stock under securities purchase agreements; and the Company’s licensee(s) may not successfully complete pre-clinical or clinical testing and the Company will not receive milestone payments. A more complete description of these and other risk factors is included in the Company’s filings with the Securities and Exchange Commission. Many of these risks, uncertainties and assumptions are beyond the Company’s ability to control or predict. You should not place undue reliance on any forward-looking statements. The forward-looking statements speak only as of the information currently available to the Company on the date they are made, and the Company undertakes no obligation to release publicly the results of any revisions to any such forward-looking statements that may be made to reflect events or circumstances after the date of this press release or to reflect the occurrence of unanticipated events, except as required by applicable law or regulation.

Innovation Pharmaceuticals

Senior Management and Key Advisors

<p>LEO EHRLICH Co-Founder, CEO, CFO, Board Chairman</p>	<ul style="list-style-type: none"> >25 years of executive leadership experience in building and managing emerging growth companies Multiple C-suite roles at private and public companies
<p>JANE HARNESS, MS, MP Sr Vice-President, Clinical Sciences and Portfolio Management</p>	<ul style="list-style-type: none"> >25 years in domestic and global drug development Experienced in large and small pharma environments Extensive pharma leadership positions across entire career
<p>William F. DeGrado, PHD Scientific Advisor, Drug Discovery and Clinical Development</p>	<ul style="list-style-type: none"> Co-Discoverer of Brilacidin while at the University of Pennsylvania Professor in the Department of Pharmaceutical Chemistry at the University California-San Francisco (UCSF) National Academy of Sciences Member; Dupont-Merck Authored over 400 academic publications, holds more than 25 patents
<p>Francis A. Farraye, MD, MSC Scientific Advisor, Inflammatory Bowel Diseases</p>	<ul style="list-style-type: none"> Physician in the Inflammatory Bowel Disease Center and Division of Gastroenterology and Hepatology at Mayo Clinic hospital in Jacksonville, Florida Area of expertise includes the management of patients with Ulcerative Colitis and Crohn's Disease Previously Professor of Medicine, Clinical Director, Section of Gastroenterology and Co-Director, Center for Digestive Disorders, at Boston University School of Medicine
<p>Stephen T. Sonis, DMD, DMSC Scientific Advisor, Oral Mucositis</p>	<ul style="list-style-type: none"> Recognized expert in cancer-related oral mucosal toxicities Professor of Oral Medicine at Harvard School of Dental Medicine Senior Surgeon at Dana-Farber Cancer Institute and Brigham and Women's Hospital
<p>Paul Ginsburg, PHD, JD Scientific Advisor, Intellectual Property</p>	<ul style="list-style-type: none"> Leading patent attorney in the pharmaceutical and biotechnology fields Former leadership positions at Pfizer, Merck, Schering-Plough PhD in Chemistry (CUNY), JD (Columbia)



Innovation Pharmaceuticals

Diversified Clinical Pipeline, Targeting Multiple Indications

Innovation Pharmaceuticals, a publicly-traded biopharmaceutical company established in 2007 (ticker: IPIX), owns intellectual property and development rights to **Brilacidin**, a defensin-mimetic drug candidate with antimicrobial and immunomodulatory/anti-inflammatory properties.

Clinical Pipeline by Stage of Development

Candidate	Indication	Preclinical	Phase 1	Phase 2	Phase 3	FDA Designation	Route
Brilacidin	Oral Mucositis					Fast Track	Rinse
	COVID-19					Fast Track	Intravenous
	IBD: Ulcerative Colitis						Oral
	IBD: UP/UPS ¹						Rectal
	ABSSSI					QIDP ²	Intravenous

IBD = Inflammatory Bowel Disease; **UP/UPS** = Ulcerative Proctitis/Ulcerative Proctosigmoiditis; **ABSSSI** = Acute Bacterial Skin and Skin Structure Infections; **COVID-19** = Coronavirus Disease 2019. Additional preclinical work being conducted in multiple acutely infectious viruses.

¹ Out-licensed UP/UPS indication to Alfasigma S.p.A. (July 2019)

² QIDP = Qualified Infectious Disease Product; qualifies for Fast Track and Priority Review

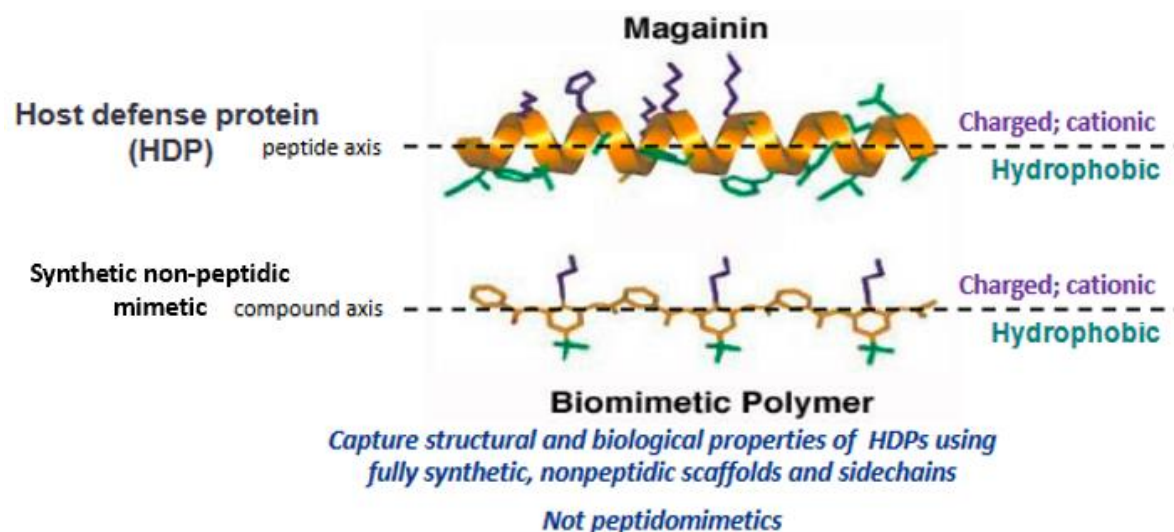
Brilacidin: A Host Defense Protein (HDP) Mimetic

Fully Synthetic, Non-Peptidic, Small Molecule

Design Approach

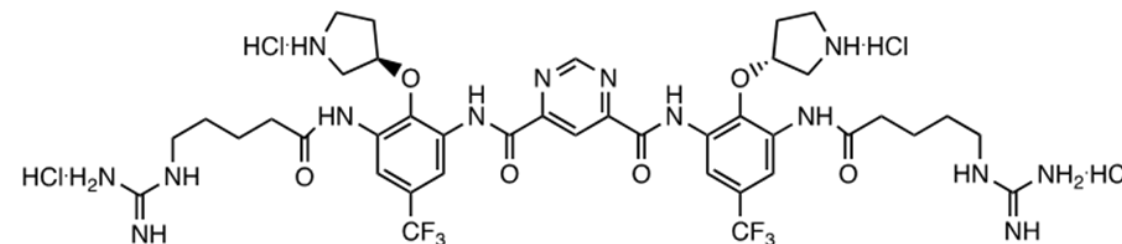
Biological activities of defensins depend on an amphiphilic helix

- Cationic (charged)
- Hydrophobic



Tew GN, et al (2010). [De Novo Design of Antimicrobial Polymers, Foldamers, and Small Molecules: From Discovery to Practical Applications](#). *Acc Chem Res*. 2010 Jan 19; 43(1): 30–39; Scott RW, DeGrado WF, Tew GN (2008). [De Novo Designed Synthetic Mimics of Antimicrobial Peptides](#). *Curr Opin Biotechnol*; 19:620-7; Tew GN, et al (2002). [De Novo Design of Biomimetic Antimicrobial Polymers](#). *Proc Natl Sci USA*. 2002 Apr16;99(8):5110-4. ([pdf](#))

Mimics HDP Structure and Activity

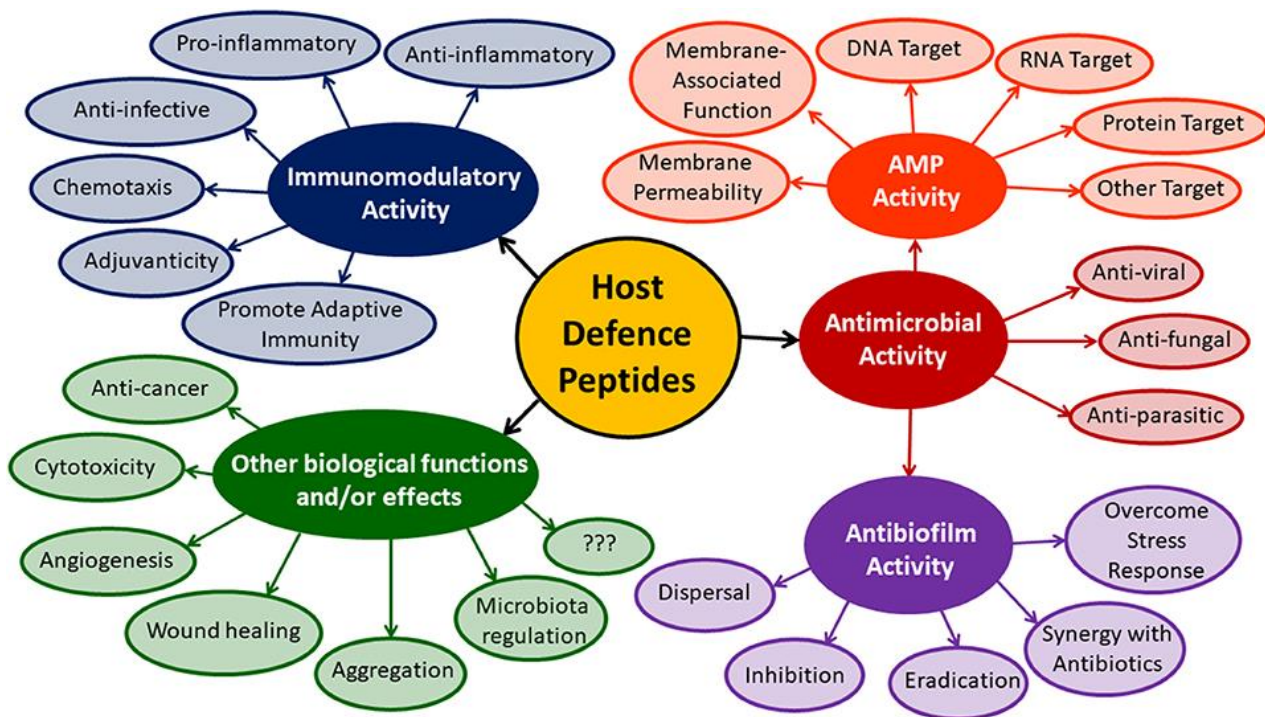


Molecular Wt: 1082.7 (tetrahydrochloride)
936.9 (free base)

Brilacidin (PMX-30063) is the result of [biocomputational de novo](#) drug design, producing a drug candidate exhibiting tailored exposure and efficacy as observed in multiple Phase 2 clinical studies

Brilacidin: Background on Host Defense Proteins (HDPs)

Wide Range of Therapeutic Activity Intrinsic to HDPs



Source: Haney EF, et al. [Reassessing the Host Defense Peptide Landscape](#). *Front Chem*. 2019 Feb 4;7:43

Also see: Phan TK, et al. [Editorial: Advances in the Immunology of Host Defense Peptide: Mechanisms and Applications of Antimicrobial Functions and Beyond](#). *Front Immunol*. 2021 Feb 25;12:637641; Gan BH, et al. [The Multifaceted Nature of Antimicrobial Peptides: Current Synthetic Chemistry Approaches and Future Directions](#). *Chem. Soc. Rev.*, 2021, 50, 7820-7880; Mookherjee et al. (2020). [Antimicrobial Host Defence Peptides: Functions and Clinical Potential](#). *Nat Rev Drug Discov*. 2020 May;19(5):311-332

HDPs are Small Antimicrobial Peptides

- Expressed widely in the animal kingdom
- Produced in skin, mucosal surfaces, neutrophils

First Line of Defense Against Foreign Invasion

(Swiss Army Knife of the Body)

- Part of innate immunity
- Maintenance of epithelial barrier function
- Regulate microbiota



Primary Mechanisms of Action

- Disrupt pathogen membranes/envelopes *(also blocks entry of viruses into host cells)*
- Maintain/Modulate host immune response *(inhibits pro-inflammatory cytokines/chemokines)*

Brilacidin has shown (pre-clinically/clinically):

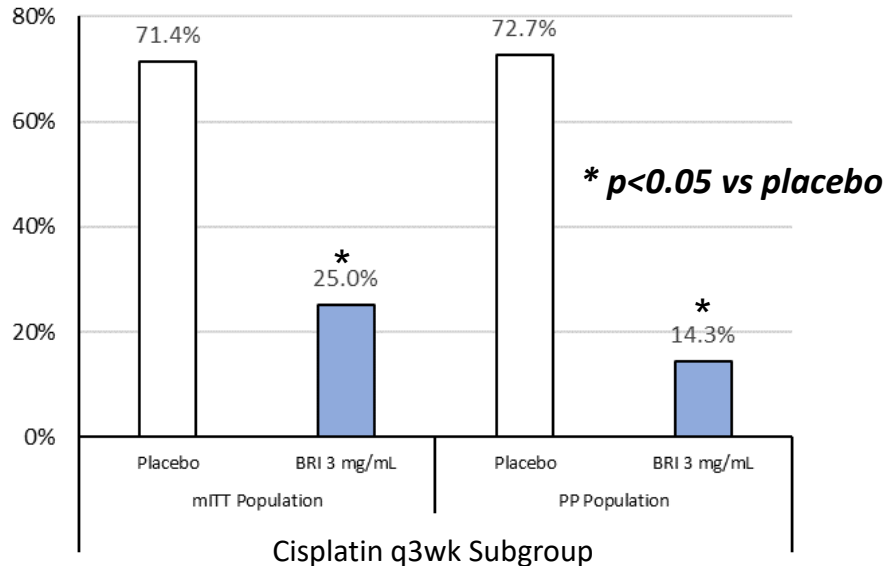
- Antibacterial properties (ABSSSI, against MRSA)
- Immuno/Anti-Inflammatory properties (Oral Mucositis, IBD)
- Antiviral properties (SARS-CoV-2, HCoVs, other)

Brilacidin for Oral Mucositis: Phase 2 Trial Results

Reduced Incidence of Severe Oral Mucositis (SOM); Delayed Time to Onset of SOM

Brilacidin *oral rinse* demonstrated strongest therapeutic benefit in Head and Neck Cancer patients on a 21-day (q3wk) cisplatin regimen

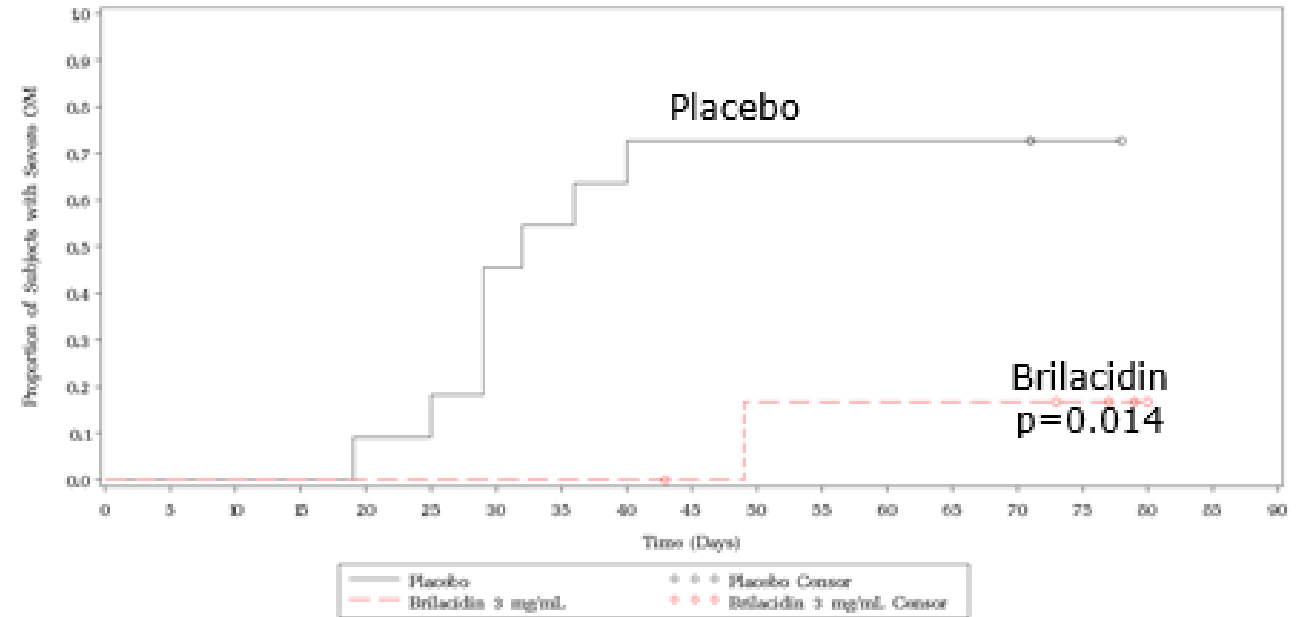
Incidence of SOM (WHO Grade ≥ 3)



Minimal absorption across buccal mucosa from oral rinse (“swish and spit”), 3 mg/mL administered 3x per day for 7 weeks

For study details, see: [NCT02324335](https://clinicaltrials.gov/ct2/show/study/NCT02324335)

Kaplan-Meier Curves for Time to Onset of SOM, 21-day Cisplatin Schedule (PP Population)



Note: period from approximately **19-49 days** during which SOM incidence rises strikingly in Placebo while not in the Brilacidin group

Current Perspectives: Phase 3 testing planned pending securing sufficient working capital as well as completing additional formulation work/manufacturing.

Brilacidin for COVID-19: Phase 2 Trial Results

Primary Endpoint not Met but Beneficial Treatment Effects Observed

Intravenous, Placebo-Controlled; 3- and 5-Day Dosing; Moderate-to-Severe COVID-19 (N=120 Subjects)

Study Design

Go to

Study Type ⓘ: Interventional (Clinical Trial)
Actual Enrollment ⓘ: 120 participants
Allocation: Randomized
Intervention Model: Parallel Assignment
Masking: Quadruple (Participant, Care Provider, Investigator, Outcomes Assessor)
Primary Purpose: Treatment
Official Title: A Phase 2, Randomized, Double-blind, Placebo-controlled, Multi-center Study to Evaluate the Efficacy and Safety of Brilacidin in Hospitalized Participants With COVID-19
Actual Study Start Date ⓘ: February 22, 2021
Actual Primary Completion Date ⓘ: July 1, 2021
Actual Study Completion Date ⓘ: July 30, 2021

Arms and Interventions

Go to

Arm ⓘ	Intervention/treatment ⓘ
Experimental: Brilacidin + SoC Brilacidin IV infusion, 3 days and up to 5 days, in addition to Standard of Care	Drug: Brilacidin Brilacidin IV infusion Drug: Standard of Care (SoC) SoC therapies for COVID-19
Placebo Comparator: Placebo + SoC Placebo IV infusion, 3 days and up to 5 days, in addition to Standard of Care	Drug: Placebo Placebo IV infusion Drug: Standard of Care (SoC) SoC therapies for COVID-19

Summary of Results

- Patient subgroups with the highest baseline values for key inflammatory (CRP, IL-6, LDH) and SARS-CoV-2 viral load biomarkers performed better based on Time to Sustained Recovery through Day 29 (primary endpoint)
- Promising treatment effects observed in National Early Warning Score 2 (NEWS2) clinical improvement scores (secondary endpoints)
- Patients who started study treatment within fewer than 7 days of onset of COVID-19 symptoms also achieved Sustained Recovery more quickly

Current Perspectives

- Pending securing funding through government programs and/or partnering, goal to test in coronavirus animal models to further inform mechanism and dosing strategies; future COVID-19 clinical trials might be also be pursued
- Scientific papers being prepared summarizing COVID-19 trial results and Brilacidin broad-spectrum *in vitro* activity in multiple viruses based on testing with research collaborators, including NIH/NIAID

See: [NCT04784897 Innovation Pharmaceuticals Reports Additional Findings Based on Review of Brilacidin Phase 2 COVID-19 Trial Results and Compassionate Use Cases — Innovation Pharmaceuticals Inc. \(ipharminc.com\)](https://www.innovationpharm.com/news/2022/07/30/brilacidin-phase-2-trial-results)

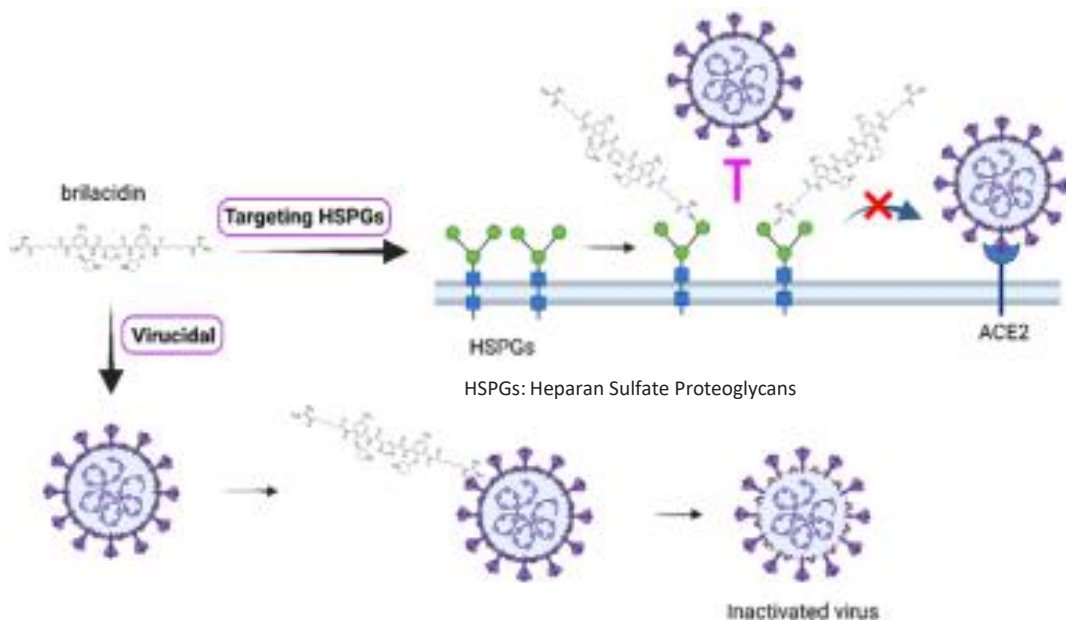
Beneficial treatment effects were similarly attributed by investigators to the compassionate use of Brilacidin in critical cases of COVID-19.

Brilacidin: Dual-Acting Antiviral MOA

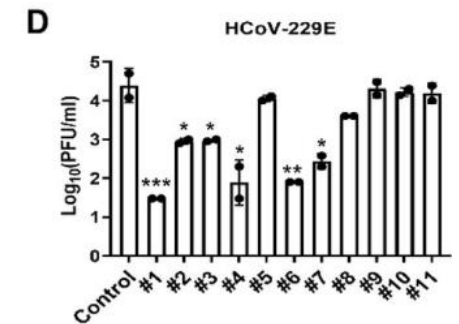
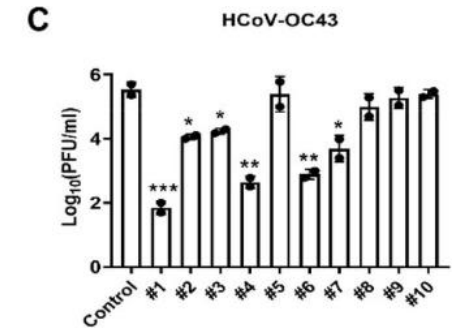
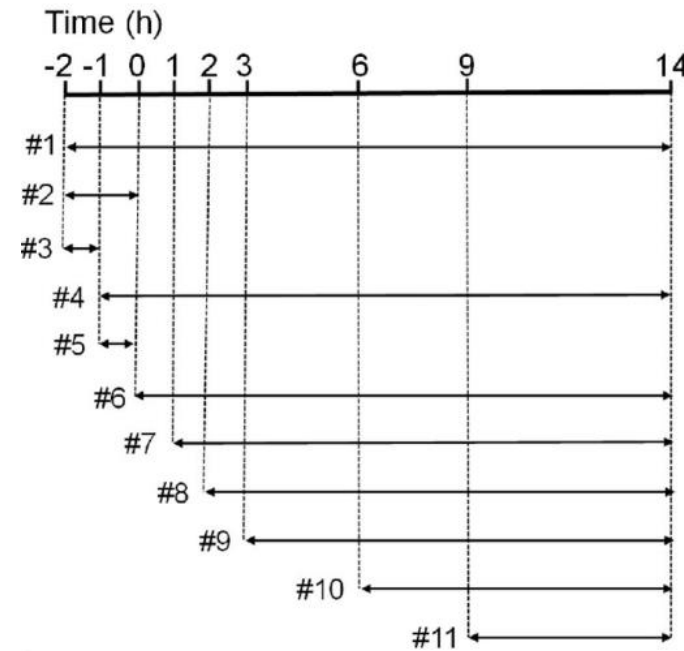
Findings from Academic Research Collaborations: Targets Virus and Host; an Entry/Early Entry Inhibitor

Brilacidin Disrupts Viral Integrity and Blocks Viral Entry

Less Likely to Drive Resistance and Give Rise to Variants



Time of Addition Experiments



Sources: Bakovic, A., Risner, K., Bhalla, N., Alem, F., Chang, T. L., Weston, W. K., Harness, J. A., & Narayanan, A. (2021). [Brilacidin Demonstrates Inhibition of SARS-CoV-2 in Cell Culture](#). *Viruses*, 13(2), 271; Theresa L Chang, et al. [Brilacidin, a Non-Peptide Defensin-Mimetic Molecule, Inhibits SARS-CoV-2 Infection by Blocking Viral Entry](#). *EC Microbiology* 18.4 (2022); Hu Y, Jo H, DeGrado WF, Wang J. [Brilacidin, a COVID-19 drug candidate, demonstrates broad-spectrum antiviral activity against human coronaviruses OC43, 229E, and NL63 through targeting both the virus and the host cell](#). *J Med Virol*. 2022 Jan 25.



Brilacidin for IBD (UP/UPS*): Phase 2 Trial Results

Rectal Enema Formulation; Demonstrated Clinical Remission, Supported by Endoscopic Improvement

Clinical Remission in Majority of Patients at Week 6 (Day 42)

Similar across cohorts

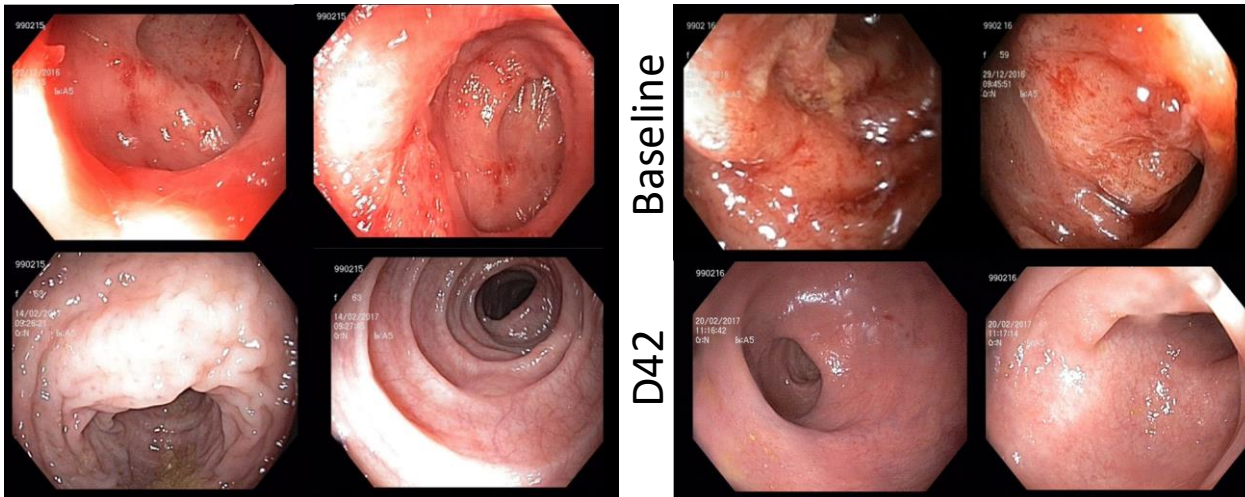
*UP/UPS=Ulcerative Proctitis/Ulcerative Proctosigmoiditis

- 60% (3 of 5) in Cohort A, 50 mg Brilacidin
- 67% (4 of 6) in Cohort B, 100 mg Brilacidin
- 75% (3 of 4) in Cohort C, 200 mg Brilacidin

Analysis population: Includes subjects with Endoscopy, Rectal Bleeding and Stool Frequency subscores at baseline and Day 42; one patient in Cohort A and one patient in Cohort C are not included due to no Day 42 endoscopy (patients declined)

Examples Clinical Remission

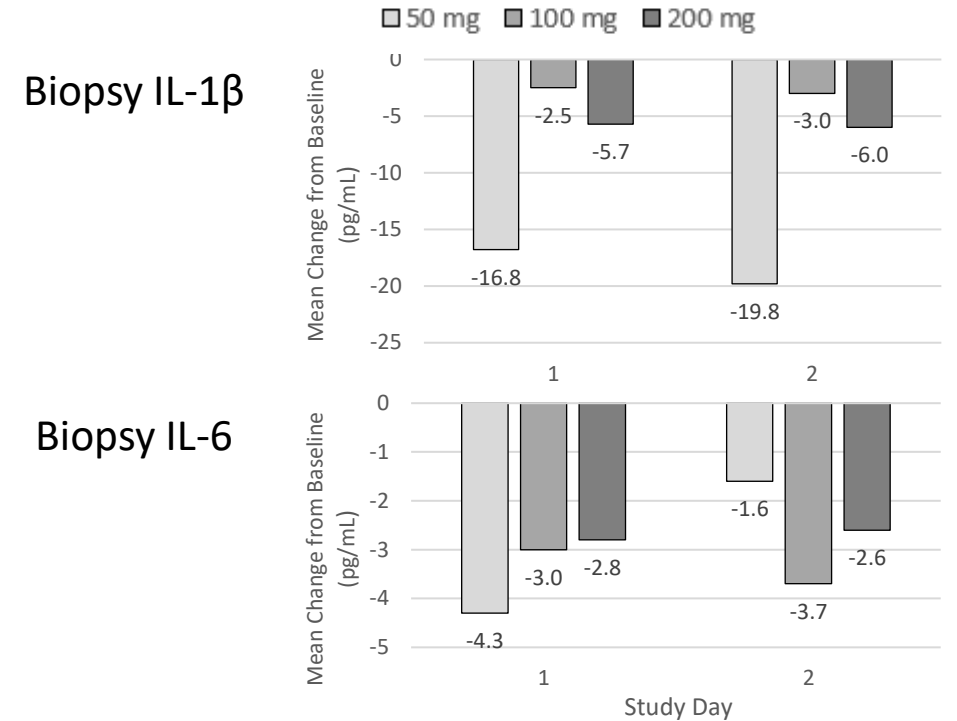
Treated with 100 mg Brilacidin (Cohort B) per retention enema



Subject 990216 (rectum)

Subject 990215 (rectum)

Colonic tissue biopsies at Week 6 (D42) demonstrate reduction in inflammatory biomarkers



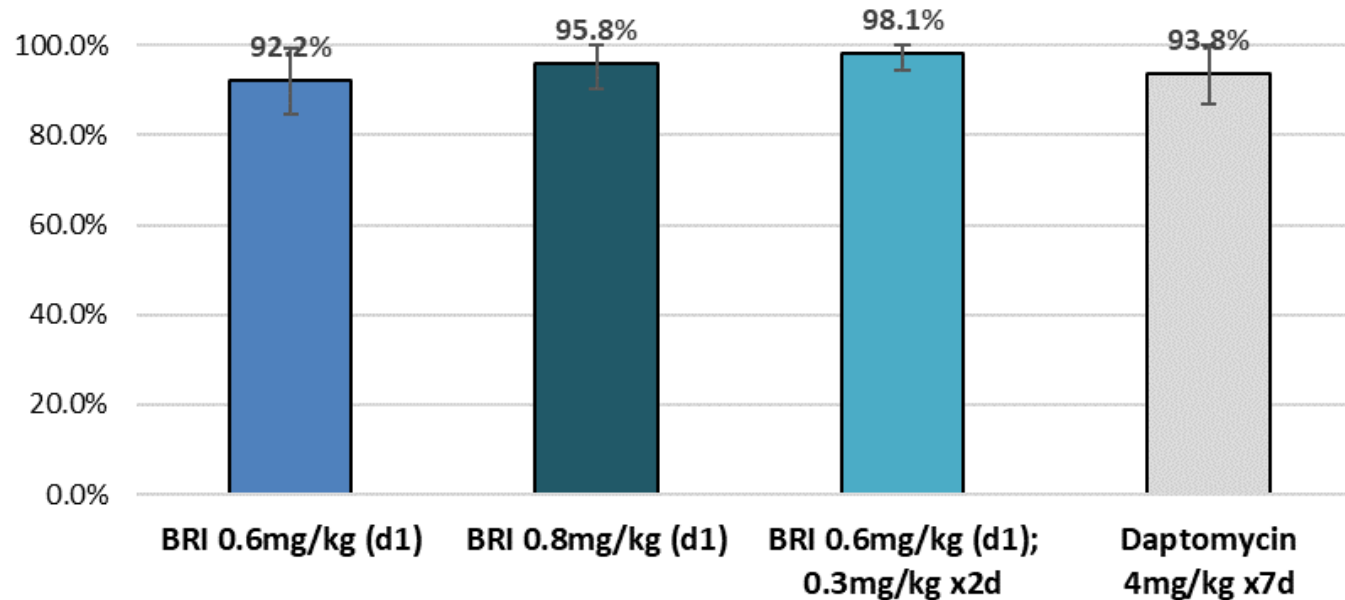
Current Perspectives: Further advancement in the indication of Ulcerative Colitis requires conduct of additional oral formulation development work.

Brilacidin for ABSSSI: Phase 2b Trial Results

Single-Dose Brilacidin Comparable to 7-Day Regimen of Daptomycin

Brilacidin IV infusion demonstrated efficacy comparable to active comparator in two Phase 2 studies in patients with Acute Bacterial Skin and Skin Structure Infections (ABSSSI)

Ph2b Study: Early Clinical Response at 48-72 hours, All Subjects



Dose selected for Ph3

For study details, see: [NCT02052388](https://clinicaltrials.gov/ct2/show/study/NCT02052388)

Also see: [Comparative Mechanistic Studies of Brilacidin, Daptomycin, and the Antimicrobial Peptide LL16](#)

Current Perspectives

- Safe and effective in TWO Phase 2 studies
- **Highly active** against MRSA
- **Convenient SINGLE-DOSE regimen**
 - Pharmacoeconomic advantages
- **Efficacy comparable to 7-day regimen of robust comparator (Daptomycin x 7 days)**
- **QIDP designation (Nov 2014) under the GAIN Act**
 - Eligible for Fast Track and Priority Review
 - 5-years Market Exclusivity
- **Minimal potential for development of resistance**
 - Novel class, with no cross-resistance
 - Novel mechanism of action confers fitness disadvantage for bacterial resistance
 - Single dose removes patient non-compliance as driver of resistance
- **Phase 3 Ready**
 - Response to Special Protocol Assessment (SPA) comments from FDA

BT BeaMedical (BeaMed): Novel Imaged Guided Surgical Laser Platform

In June 2022 Company Acquired a \$4m Stake in BeaMed

BeaMed pursuing FDA 510(k) pathway for marketing clearance in the U.S. and the corresponding process for a CE Mark in Europe



For more information, visit: www.beam-med.com/

Also see: [BeaMed - YouTube](#)

BeaMed is the inventor and developer of the StingRay Laser System, a novel laser-based thermal ablation technology enabling new treatment options for oncology procedures, including those treating brain, prostate, liver, breast and lung cancers. The StingRay technology will also allow treatment of previously inoperable cases of epilepsy.

The StingRay System combines new fiber optic technology with an advanced laser console and computerized intelligent control that allows an excellent match between the volume of tumors or the epileptic focal points, and the energy delivered. The accurate matching makes sure vital functional areas are protected against thermal damage.

The console integrates advanced imaging modalities, and guides the physician, making sure the treatment is adjusted to the specific patient needs with real time energy control.

Innovation Pharmaceuticals—Strategic Direction

Clinical Pipeline

- Pursue Brilacidin Partnering/Licensing Efforts
- Advance Phase 3-ready Oral Rinse Brilacidin Program in Oral Mucositis (pending securing sufficient working capital)
- Continue to Research Brilacidin's Antiviral and Other Properties
 - Goal to leverage scientific collaborations to gather data, publish findings, attract investor interest

Business Opportunities

- Increase Shareholder Value by Diversifying Portfolio
- Company Active in Reviewing and Executing on Attractive Investment Opportunities
 - June 15, 2022—acquired minority stake in BT BeaMedical, a company developing novel laser-based thermal ablation technology designed for treatment of previously inoperable cases of epilepsy and for enabling new treatment options for oncology procedures



Innovation Pharmaceuticals

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September 2022

www.ipharminc.com

Ticker: IPIX