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 6, 2023

Blue Water Vaccines Inc.

(Exact name of registrant as specified in its charter)

001-41294

Delaware (State or other Jurisdiction of Incorporation)

(Commission File Number)

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83-2262816 (IRS Employer Identification No.)

201 E. Fifth Street, Suite 1900 Cincinnati, Ohio

(Address of Principal Executive Offices)

(Zip Code)

45202

Registrant's telephone number, including area code: (513) 620-4101

(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:

□ 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
Common Stock, par value \$0.00001 per share	BWV	The Nasdaq Stock Market LLC

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 \boxtimes

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.

Attached as Exhibit 99.1 to this Current Report is the form of presentation that Blue Water Vaccines Inc. (the "Company") intends to use in connection with certain meetings and presentations beginning on January 9, 2023 at the J.P. Morgan Healthcare Conference in San Francisco, California.

The foregoing (including Exhibit 99.1) is being furnished pursuant to Item 7.01 and will not be deemed to be filed for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise be subject to the liabilities of that section, nor will it be deemed to be incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

99.1	Presentation, dated January 2023
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURE

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

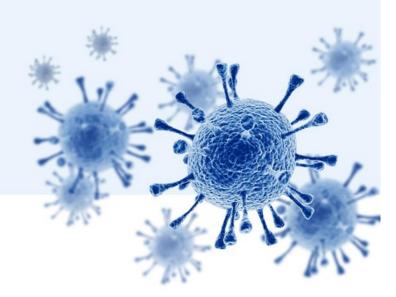
Blue Water Vaccines Inc.

By: /s/ Joseph Hernandez

Joseph Hernandez Chief Executive Officer

Date: January 6, 2023





January 2023

NASDAQ: BWV

The Presentation (the "Presentation") has been prepared by Blue Water Vaccines, Inc. (the "Company"). Certain information contained herein has been derived from sources prepared by third parties. While such information is believed to be reliable for the purposes used herein, the Company makes no representation or warranty with respect to the accuracy of such information.

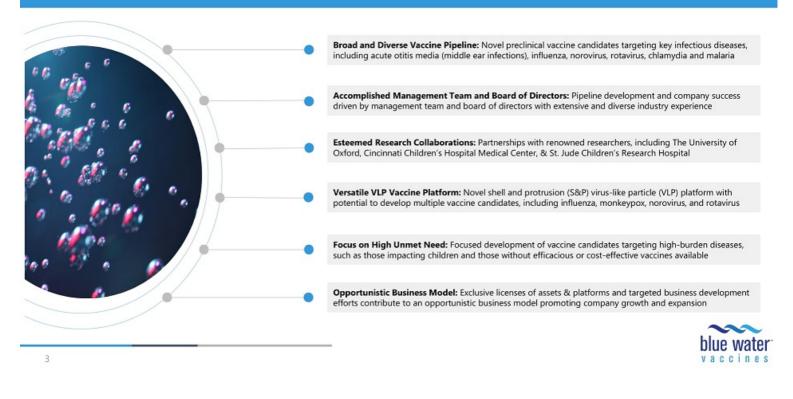
This Presentation does not constitute an offer to sell, or the solicitation of an offer to buy, any securities of the Company in any jurisdiction, domestic of foreign, where the offer, solicitation or sale is not permitted or would be unlawful prior to registration or gualification under the securities laws of any such state or jurisdiction.

FORWARD LOOKING STATEMENTS:

Certain statements in this presentation (the "Presentation") has been prepared by Blue Water Vaccines, Inc. (the "Company"). This presentation contains forward-looking within the meaning of the Private Securities Litigation Reform Act of 1995. These statements may be identified by the use of forward-looking words such as "anticipate," "believe," "forecast," "estimate," "expect," and "intend," among others. These forward-looking statements are based on BWV's current expectations and actual results could differ materially. There are a number of factors that could cause actual events to differ materially from those indicated by such forward-looking, but not limited to, risks related to the development of BWV's vaccine candidates, including, but not limited to BWV-301; the failure to obtain FDA clearances or approvals and noncompliance with FDA regulations; delays and uncertainties caused by the global COVID-19 pandemic; risks related to the timing and progress of clinical development of our product candidates; our need for additional financing; uncertainties of patent protection and litigation; uncertainties of government or third party payor reimbursement; limited research and development efforts and dependence upon third parties; and substantial competition. As with any vaccine under development, there are significant risks in the development, regulatory approval and commercialization of new products. BWV does not undertake an obligation to update or revise any forward-looking statement. Investors should read the risk factors set forth in BWV's Annual Report on Form 10-K for the fiscal year ended December 31, 2021, filed with the Securities and Exchange Commission (the "SEC") on March 31, 2022, Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, filed with the SEC on November 14, 2022 and periodic reports filed with the SEC on or after the date thereof. All of BWV's forward-looking statements are expressly qualified by all such risk factors and other cautionary statements. The information set



Blue Water Vaccines Overview



Accomplished Management Team and Board of Directors

Led by experienced entrepreneurs with sustained records of successfully leading innovation and commercialization



vaccines

Renowned Research Partners





Sunetra Gupta, Ph.D.

Co-Inventor, Universal Influenza Vaccine (BWV-101) Professor, University of Oxford



Xi Jason Jiang, Ph.D. Co-Inventor, S & P Particle VLP Platform, Norovirus-Rotavirus Vaccine (BWV-301) Retired Professor, University of Cincinnati, Department of Pediatrics





Ming Tan, Ph.D. Co-Inventor, S & P Particle VLP Platform, Norovirus-Rotavirus Vaccine (BWV-301) Assistant Professor, University of Cincinnati, Department of Pediatrics





Jason Rosch, Ph.D.

Inventor, S. pneumoniae Vaccine (BWV-201) Associate Member, St. Jude Faculty





Guangming Zhong, M.D., Ph.D.

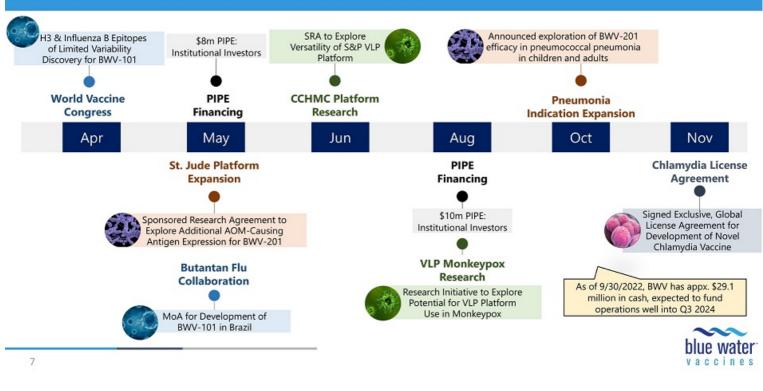
Inventor, Chlamydia Vaccine (BWV-401) Professor, University of Texas Health San Antonio



Blue Water Vaccines Pipeline

Infectious Disease Program	Candidate	Preclinical	Phase 1	Phase 2	Phase 3	Collaborator	
<i>S. pneumo</i> -Induced Acute Otitis Media & Pneumonia	BWV-201					St. Jude Children's Research Hospital	
Universal Flu	BWV-101						
H1 Pre-Pandemic	BWV-102						
Norovirus / Rotavirus	BWV-301		BWV is also exploring the applicability of monkeypox within the norovirus VLP platform			Cincinnati	
Norovirus / Malaria	BWV-302					Children's	
Chlamydia	BWV-401					UT Health	
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Blue Water Vaccines Recent Execution

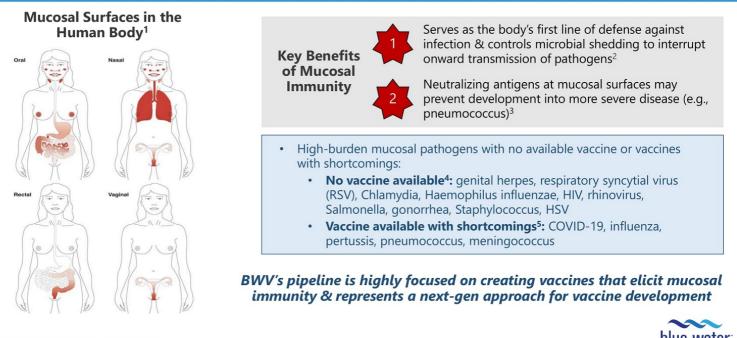




Our Vaccine Candidates



Mucosal Immunity – Why is it Important?



- dicine, 11(4 Suppl), S45–S53. 9 https://doi.org/10.1038/mm1213
 Wright PF, Ackerman ME, Brickley EB. Mucosal Immunity: The Forgotten Arm of the Immune System. J Pediatric Infect Dis Soc. 2019 Mar 288(1):53-54. doi:10.1093/jnids/pix102. PMID: 29309656; PMICID: PMIC6615307.
- Lynch JM, Briles DE, Metzger DW. Increased protection against pneumococcal disease by mucroal administration of conjugate vac interleukin-12. Infect Immun. 2003 Aug.71(8):4780-8. doi: 10.1128/NAI.71.8.4780-4788.2003. PMID: 12874361; PMCID: PMC166054. CDC, "List of Vaccines Used in the United States", <u>https://www.cdc.gov/yaccines/unifacerises</u>. Eak Interleukin-Management Assessment





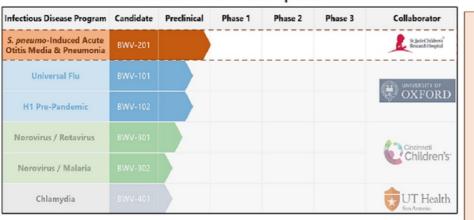
BWV-201: *S. Pneumoniae* – Induced Acute Otitis Media (AOM) & Pneumonia



Blue Water Vaccines is committed to alleviating pain in children who suffer from S. pneumoniae induced middle ear infections and pneumonia in adults and children



BWV-201 Overview



Blue Water Vaccines Pipeline

BWV-201 Highlights

- BWV-201 is a live, attenuated, intranasally delivered, modified strain of 19F Streptococcus pneumoniae¹
- Strain is capable of colonization, but not able to cause invasive disease¹
- Hypothesized to be serotypeindependent (e.g., will protect against all AOM and pneumonia-causing strains)¹
- BWV has an exclusive, global license with St. Jude Children's Research Hospital
- Additional experiments currently in progress to present additional AOMcausing antigens to the bacteria surface

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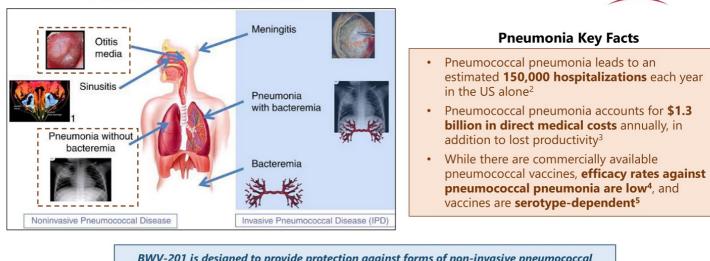
 Rosch JW, Iverson AR, Humann J, Mann B, Gao G, Vogel P, Mina M, Murrah KA, Perez AC, Edward Swords W, Tuomanen EI, McCullers JA. A live-attenuated pneumococcal vaccine elicits CD4+ Tcell dependent class switching and provides serotype independent protection against acute oitils media. EMBO Mol Med. 2014 Jan;6(1):141-54. doi: 10.1002/emmm.201202150. PMID: 24408968; PMCID: PMC3936495.



St. Jude Children's Research Hospital

Pneumococcal Disease & Pneumonia Overview





BWV-201 is designed to provide protection against forms of non-invasive pneumococcal disease, including Acute Otitis Media (AOM) and Pneumonia Without Bacteremia

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The Vacine Book (Second Edition), Academic Press, 2016, Pages 225-243, EBM 9780228021744, <u>https://doi.org/10.1008/0786-013-802174-3.00012-6</u> COC Fox1 Facts: Pressmenced10ises, <u>https://www.cdc.apu/doi.org/10.1008/0786-013-802174-3.00012-6</u> COC: Dog Besistant Streptococcus Preumonice: <u>https://www.cdc.apu/doi.org/10.1008/1786-013-802174-3.00012-6</u> Editiol. J. D. Wins: B. A. Vertchiem (J. F. Schweld, E. C. Valeniner-Bondh, P. Bonh, A. S. Strackiet, J. JODID A. Streamic Review of Studies Published between 2016 and

Pneumococcal Disease Overview¹

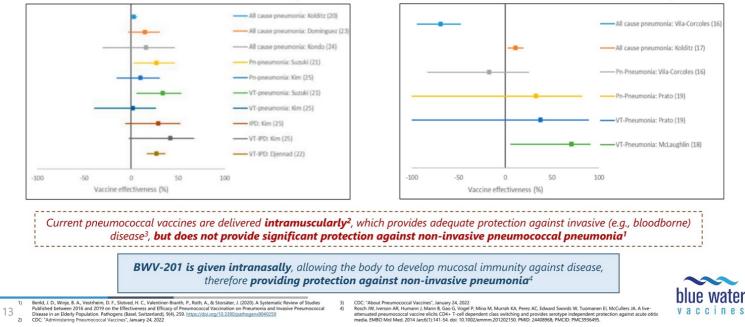
2019 on the Effectivenes and Efficacy of Pneumococcal Vaccination on Pneumonia and Invasive Pneumococcal Disease in an Elderly Population. Pathogens (B Switzerland), 943, 259. https://doi.org/10.3390/pathogens9040259 CDC: Pneumococcal Disease.Juppet JR 2021.



Pneumococcal Vaccine Shortcomings & BWV-201 Approach

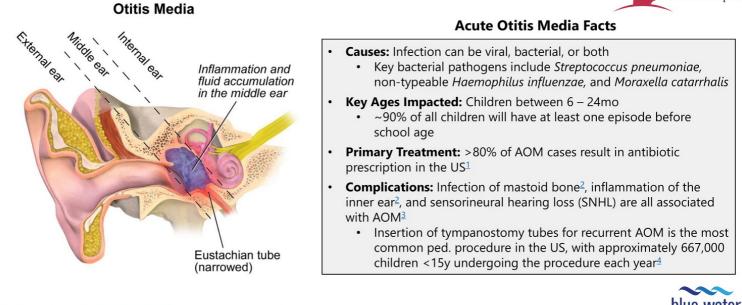
PCV13 Pneumococcal Pneumonia Efficacy Rates¹

PPV23 Pneumococcal Pneumonia Efficacy Rates¹



Acute Otitis Media (AOM) Overview

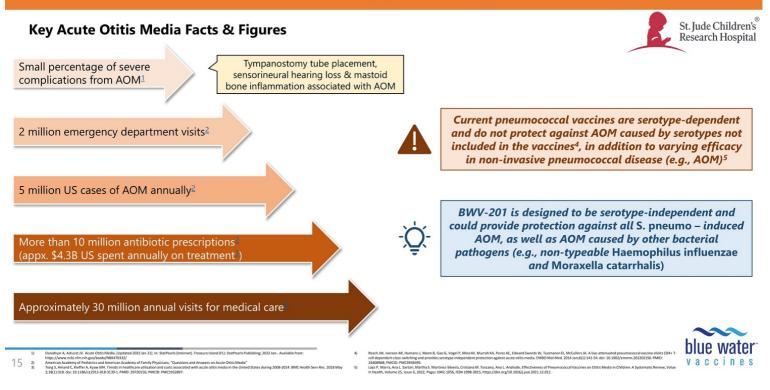




- Barbieri, E., Donà, D., Cantarutti, A. et al. Antibiotic prescriptions in acute otitis media and pharyngitis in Italian pediatric outpatients. Ital J Pediatr 45. 103 (2019). https://doi.org/10.1186/s13052-019-0696-9 Ren Y. Sethi RKY, Stankwic KM. Acute Otitis Media and Associated Complications in United States Emergency Departmer Otol Neurotol. 2018 Sep;39(8):1005-1011. doi: 10.1097/MA0.00000000001929. PMID: 30113560; PMICID: PMIC6097248. 14 2)
- Park, J.H., Park, S.J., Kim, Y.H. et al. Sensorineural hearing loss: a complication of acute otitis media in adults. Eur Arch Otorhinolaryngol 271, 1879–1884 (2014). https://doi.org/10.1007/s00405-013-2675-x Spaw M, Carnacho M. Tympanostromy Tube; [Updated 2022 May 1]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing: 2022. Jan.- Available from: https://www.ncbi.nlm.nih.gov/books/NBK565858/



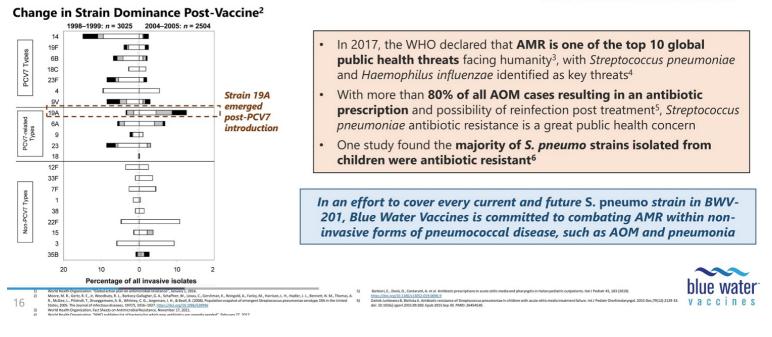
Acute Otitis Media Market Opportunity



BWV-201: Combating Antimicrobial Resistance (AMR)

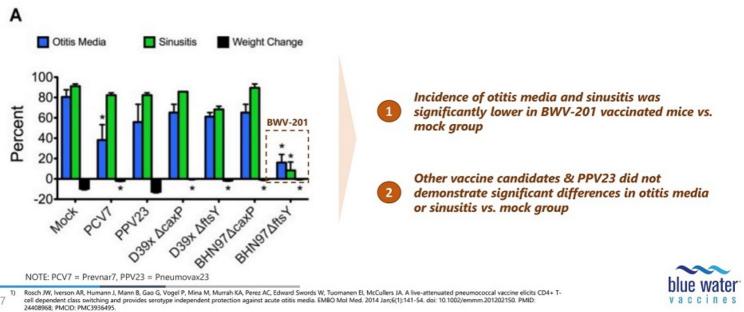
"Antimicrobial resistance threatens the very core of modern medicine and the sustainability of an effective, global public health response to the enduring threat from infectious diseases."

-WHO Global Action Plan on AMR¹



BWV-201 Preclinical Data for AOM: Mouse Model¹

<u>Approach</u>: Mice intranasally vaccinated with BWV-201 (BHN97∆ftsY) or other live, attenuated vaccines vs. placebo and challenged with BHN97 strain



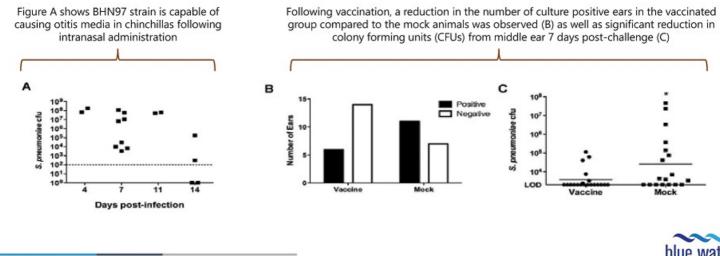
St. Jude Children's

Research Hospital

BWV-201 Preclinical Data for AOM: Chinchilla Model¹

Approach: Chinchillas intranasally vaccinated with BWV-201 vs. placebo & challenged with BHN97 S. pneumo strain to understand immunogenicity and efficacy



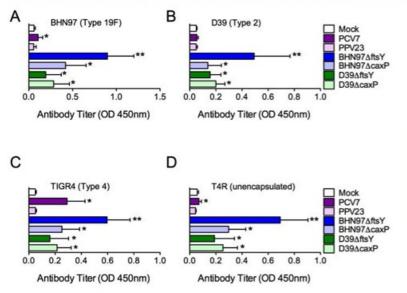


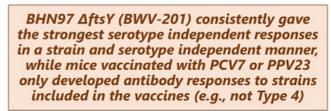
Rosch JW, Iverson AR, Humann J, Mann B, Gao G, Vogel P, Mina M, Murrah KA, Perez AC, Edward Swords W, Tuomanen EI, McCullers JA. A live-attenuated pneumococcal vaccine elicits CD4+ T-cell dependent class switching and provides serotype independent protection against acute otitis media. EMBO Mol Med. 2014 Jan;6(1):141-54. doi: 10.1002/emmm.201202150. PMID: 18 cell dependent class switching and provid 24408968; PMCID: PMC3936495.



BWV-201 Preclinical Data for AOM: Chinchilla Model

BWV-201 induced a potent serotype independent antibody response¹





19 ¹) Rosch JW, Iverson AR, Humann J, Mann B, Gao G, Vogel P, Mina M, Murrah KA, Perez AC, Edward Swords W, Tuomanen EL, McCullers JA. A live-attenuated pneumococcal vaccine elicits CD4+ T-cell dependent class switching and provides serotype independent protection against acute oitiis media. EMBO Mol Med. 2014 Jarv6(1):141-54. doi: 10.1002/emmm.201202150. PMID: 24408968; PMCID: PMC3936495.



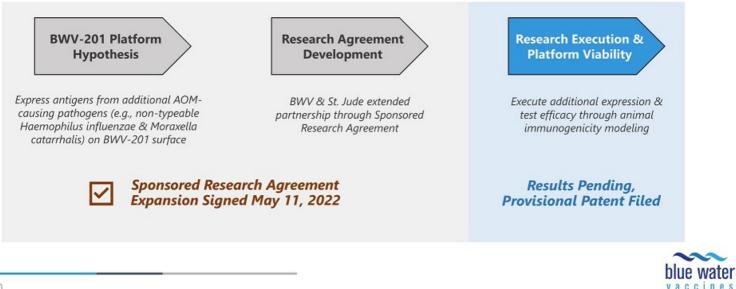
St. Jude Children's

Research Hospital

Sponsored Research Agreement Expansion

St. Jude Children's Research Hospital

Validation of Optimized Live Attenuated Pneumococcal Vaccines





BWV-101: Universal Influenza BWV-102: H1 Pre-Pandemic



Aiming to eradicate the flu, universally, with a smart vaccine that targets frequently occurring virulent epitopes



BWV-101 & BWV-102 Overview



Blue Water Vaccines Pipeline

BWV Influenza Program Highlights

(III)

BWV-101 is a universal influenza candidate with hypothesized protection against H1, H3, and Flu B strains

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- **BWV-102** is a standalone H1, prepandemic, influenza vaccine candidate
- Development of both candidates is based on epitopes of limited variability discovered through mathematical modeling at The University of Oxford
- BWV holds a global, exclusive license for epitopes of limited variability



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Influenza Market Opportunity



Influenza Disease Burden

- 1 billion influenza infections globally and between 290,000 - 650,000 deaths each year1
- > In the US alone, there are about 30 million cases each year and 30,000 - 50,000 related deaths²
- > The total annual economic burden for influenza in the US is about \$87 billion³
- P Influenza A and B cause most of human illness and the flu season

Current Vaccine Shortcomings

- × Vaccines need to be manufactured in chicken eggs which increases time and cost
- Yearly reformulations rely on predictions as to which strains will be dominant that flu season
- × Current annual flu vaccine effectiveness ranges from 19% - 50% due to strain variations⁴
- × Given strain evolution, individuals need to receive shots each year to provide any sort of protection

With 193.8 million flu shots given in the 2020 – 2021 season⁵ and an average CDC cost of \$14.68 per adult dose⁶, about \$2.8 billion was spent on flu shots in the US alone from 2020 - 2021

23 3

 World Health Organization, Global Influenza Programme, "Burden of Disease"
 Apr 20. PMID: 17544181.

 Centers for Disease Control and Prevention, "Fequently Acked Questions about Estimated Fu Burden"
 4)

 Centers for Disease Control and Prevention, "CDC Seasonal Flu Vaccine Effectiveness Studies"
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 Monaria NA, Orgenzance, "Burden and costs, Vaccine, 2007 July 28,25(27):5080-96. doi: 10.1016/j.vaccine.2007.03.046. Epub 2007
 6

 Centers for Disease Control and Prevention, "CDC Seasonal Flu Vaccine Effectiveness Studies"
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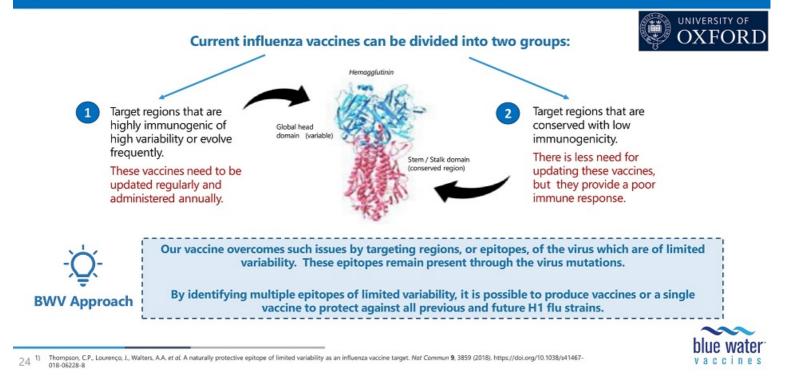
 Centers for Disease Control and Prevention, "CDC Seasonal Flu Vaccine Effectiveness Studies"
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 Influenza in the US: messuring disease burden and costs, Vaccine, 2007 July 28,25(27):5080-96. doi: 10.1016/j.vaccine.2007.03.046. Epub 2007
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 Centers for Disease Control and Prevention, "CDC Vaccine Price List, July 1, 2022"
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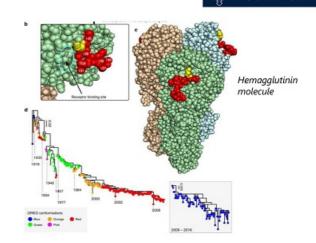
Epitopes of Limited Variability Overview



Epitopes of Limited Variability Overview

Epitopes of Limited Variability Discovery & Plan

- Oxford Discovery: Antigen/epitope evolution is limited in certain regions of the influenza virus, while previous thought was high evolution within the entire molecule
- Epitopes of Limited Variability Immunogenicity: ELVs are naturally immunogenic based on Oxford research
 - ELVs cycle between limited number of different conformations and represent optimal vaccine targets
- BWV License & Approach: We licensed IP for cross-protective epitopes for our vaccine candidates
 - o Developed at the University of Oxford by Dr. Sunetra Gupta
 - Mathematical research has pinpointed ELVs that provide immunity to multiple strains
 - Identified ELVs in historical H1, H3 influenza and Influenza B strains to combine into a single, universal influenza vaccine candidate



Oxford mathematical modeling showing certain epitopes (named "OREO") remain constant over time



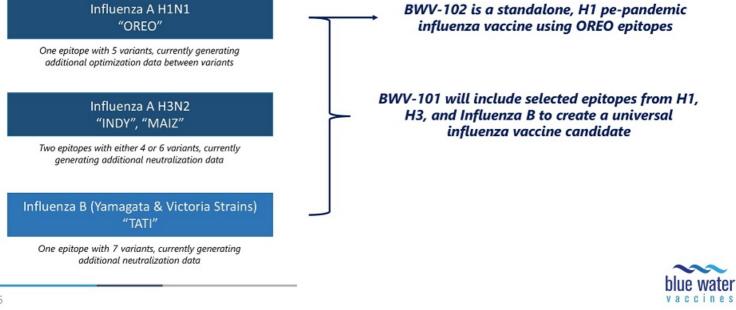
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25 1) Thompson, C.P., Lourenço, J., Walters, A.A. et al. A naturally protective epitope of limited variability as an influenza vaccine target. Nat Commun 9, 3859 (2018). https://doi.org/10.1038/s41467-018-06228-8

BWV's Epitopes of Limited Variability Targets



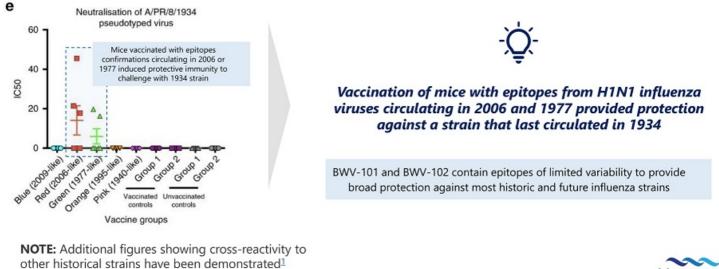
Identified Epitopes of Limited Variability



Epitopes of Limited Variability Proof of Concept

Approach: Mice were vaccinated with identified influenza A H1 epitope confirmations and challenged with historical influenza A strains to confirm cross-reactivity and epitope conservation across strains



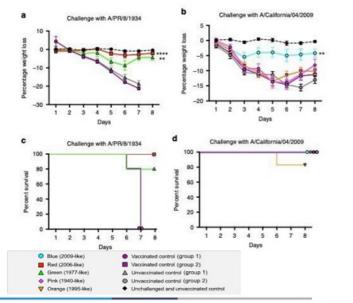


27 1) Thompson, C.P., Lourenço, J., Walters, A.A. et al. A naturally protective epitope of limited variability as an influenza vaccine target. Nat Commun 9, 3859 (2018). https://doi.org/10.1038/s41467-018-06228-8



Epitopes of Limited Variability Proof of Concept

<u>Approach</u>: In addition to cross-reactivity, understand if antibodies directed against these epitopes confer protective immunity against historic strains





Vaccination with the 2006-like and 1977-like OREO epitope confirmations conferred immunity to challenge with a strain that last circulated in 1934



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28 1) Thompson, C.P., Lourenço, J., Walters, A.A. et al. A naturally protective epitope of limited variability as an influenza vaccine target. Nat Commun 9, 3859 (2018). https://doi.org/10.1038/s41467-018-06228-8



S&P Nanoparticle VLP Platform BWV-301: Norovirus – Rotavirus



We aim to create a novel, versatile vaccine platform applicable to multiple infectious diseases for transformative vaccines



BWV Virus-Like Particle (VLP) Program Overview





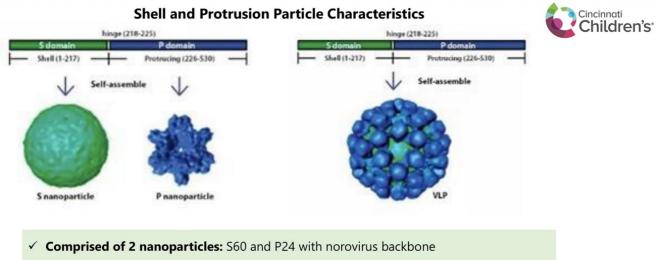
Blue Water Vaccines Pipeline

BWV VLP Program Highlights

- Versatile VLP program based on the norovirus backbone that can selfassemble into 2 particles; shell (S) and protrusion (P)
- Ability to present 3 smaller antigens on P particle and 1 large antigen on S particle for vaccine development
- Proof of concept data for norovirus / rotavirus in gnotobiotic pig model & for malaria in mouse model
 - Current **exploration of monkeypox antigen** presentation for development of novel vaccine



Versatile Nanoparticle Virus-Like Particle Platform



blue water

vaccines

- \checkmark Ability to **present additional antigens** on either particle from multiple infectious diseases
- ✓ Broad therapeutic capabilities and a cost-effective vaccine development platform
- ✓ **Proof-of-concept in animal models** showing strong & enhanced immunogenicity



BWV-301 Norovirus-Rotavirus Overview

Norovirus & Rotavirus Impact



- > Norovirus is the most common cause of acute gastroenteritis, with about 700 million cases each year
 - About 200 million cases are in children under 5 years old, leading to an estimated 50,000 child deaths each year¹
 - Estimated \$60.3 billion spent on treatment each year²
- > Rotavirus causes an estimated 111 million cases of gastroenteritis each year
 - 2 million hospitalizations are reported each year, along with 122,000 - 215,000 deaths³

Vaccination Needs

There are no commercially-available norovirus vaccines despite high disease burden in developed and developing countries

While there are several available rotavirus vaccines, efficacy in low-income countries is lower & more efficacious vaccines are needed

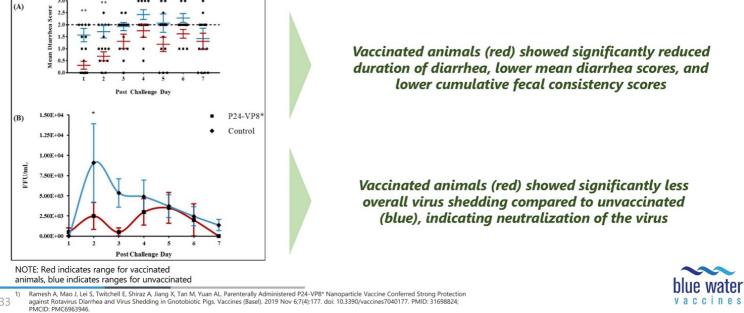


Centers for Disease Control and Prevention, "Norovirus Worldwide" Tan M. Norovirus Vaccines: Current Cinical Development and Challenges. Pathogens. 2021 Dec 19;10(12):1641. doi: 10.3390/pathogens10121641. PMID: 34959596; PMCID: PMC8709042. World Health Organization, "Rominus Vaccines: WHO position page – July 2021" 32 2

BWV-301 Preclinical Data: Gnotobiotic Pig Model¹

Approach: Assess the immunogenicity and protective efficacy of the P24-VP8* nanoparticle in gnotobiotic pig model of human rotavirus infection and disease using mean diarrheal score and quantified viral shedding





BWV-301 Preclinical Data: Gnotobiotic Pig Model¹

Approach: Assess the immunogenicity and protective efficacy of the P24-VP8* nanoparticle in gnotobiotic pig model by measuring antibody titers & immune response indicators



- . P24-VP8*
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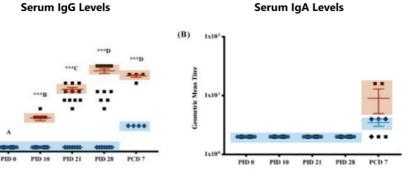
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Mean Titer

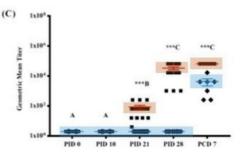
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Serum IgG Levels



Serum IgA titers only detectable after challenge at PCD 7

HRV Neutralizing Antibody Levels



HRV neutralizing antibodies were detected in serum of vaccinated pigs vs. control pigs only show detection post-challenge

NOTE: Red indicates range for vaccinated animals, blue indicates ranges for unvaccinated

P24-VP8*-specific IgG antibody titers

were significantly higher in

vaccinated pigs vs. control

Ramesh A, Mao J, Lei S, Twitchell E, Shiraz A, Jiang X, Tan M, Yuan AL. Parenterally Administered P24-VP8* Nanoparticle Vaccine Conferred Strong Protection against Rotavirus Diarrhea and Virus Shedding in Gnotobiotic Pigs. Vaccines (Basel). 2019 Nov 6;7(4):177. doi: 10.3390/vaccines7040177. PMID: 31698824; PMCID: PMC5693946. 34

HRV = Human Rotavirus



BWV-301 Preclinical Data: Mouse Model

Approach: Vaccination of mice with vaccine candidate P₂₄ particle presenting the small domain of the CS protein (3D7- PP) and two controls to demonstrate immunogenicity of vaccine candidate



blue water

vaccines

	Antibody Titer After 2 nd Immunization			Antibody Titer After 3 rd Immunization		
	3D7-PP	3D7-His	3D7-GST	3D7-PP	3D7-His	3D7-GST
Mouse 1	25600	800	400	201400	25600	12800
Mouse 2	51200	<100	400	402800	12800	12800
Mouse 3	25600	400	400	201400	25600	12800
Mouse 4	25600	<100	800	402800	12800	12800

Vaccine candidate produces higher titer of antibodies, indicating immune response and potential immunogenicity



S&P Nanoparticle VLP Platform BWV-302: Norovirus – Malaria



We aim to create a novel, versatile vaccine platform applicable to multiple infectious diseases for transformative vaccines



Malaria Overview



Malaria Overview & Impact

- Caused by protozoan parasites from the > **Plasmodium family**
- About 219 million cases reported in 2019 leading to an estimated 409,000 deaths globally1
- Approximately 67% of deaths can be attributed to children¹
- Direct costs of approximately \$12 billion worldwide each year²



Treatment Limitations

- × One vaccine is available for treatment with limited authorization by the EMA in high transmission regions³
- × Two most common treatments are Chloroquine phosphate & Artemisinin-based combination (ACT) therapies⁴
- × Growing concern about resistance to mosquito control pesticides and existing malaria treatment⁵

World Health Organization, "Malaria – Key Facts, 26 July 2022" Centers for Disease Control and Prevention, "Malaria's Impact Worldwide" World Health Organization, "Who recommends groundbreading malaria vaccine for children at risk", 6 October 2021 37 3

Mayo Clinic, "Malaria Diagnosis and Treatment" Uwimana, A., Legrand, E., Stokes, B.H., et al. Emergence and clonal expansion of in vitro anternisinin-re Plasmodium facioparum kelchal StoHt mutant parasites in Rwanda. Nat Med 26, 1602–1608 (2020). https://doi.org/10.1038/s41591-020-1005-2

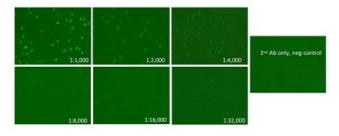


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BWV-302 Overview and Hypothesis

Approach: Incorporate sequences from plasmodium sporozoites into P24 VLP and test VLP viability and test mouse sera for reactivity using immunofluorescence assays





IFA of plasmodium sporozoites (3D7) stained with anti-P24 particle presenting the small domain of the CS protein mouse sera

The antibodies were also shown to recognize the plasmodium falciparum 3D7 strain using immunofluorescence assays Plasmodium sporozoites that cause infection can be attached to the P-particle in the S&P platform (detected using immunofluorescence) and may represent a novel malaria vaccine candidate



Monkeypox Market & Vaccine Exploration



Monkeypox Overview & Impact

- Monkeypox virus is part of the same family of viruses as variola virus, the virus that causes smallpox¹
- Symptoms are similar to that of smallpox, but milder, and monkeypox is rarely fatal¹
- First human case recorded in 1970, with infrequent cases in several central and western African countries¹
- > 2 available monkeypox vaccines:
 - JYNNEOS vaccine: Live, attenuated, nonreplicating smallpox and monkeypox vaccine given in a 2-dose series with doses 28 days apart²
 - ACAM2000 vaccine: Live vaccinia virus administered via bifurcated needle²

39 1) CDC, "About Monkeypox", July 22, 2022 2) CDC, "Monkeypox Vaccines", August 30, 2022

Monkeypox Vaccine Opportunity

- ✓ Provide alternative vaccine options to meet global need
- ✓ Develop non-live vaccines that are still capable of eliciting an immune response

BWV Monkeypox Approach

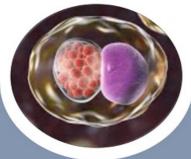
- ✓ Utilize VLP platform licensed from Cincinnati Children's to present monkeypox and/or smallpox antigens within the norovirus S & P particles
- Once constructs are generated, BWV will assess vaccine's ability to elicit an immune response in an animal model
- Once immunogenicity is assessed, BWV will assess the scalability and manufacturability of the vaccine



Cincinnati Children's



S&P Nanoparticle VLP Platform BWV-401: Chlamydia



Our goal is to develop a novel, live attenuated vaccine for the prevention of Chlamydia infection caused by Chlamydia trachomatis bacteria



BWV-401 Overview



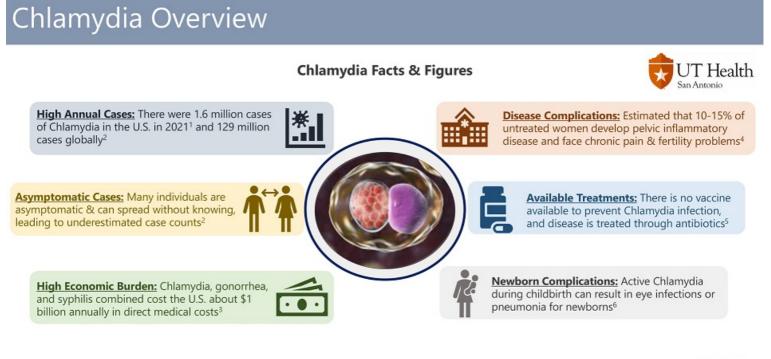
Blue Water Vaccines Pipeline

BWV Chlamydia Program Highlights

- Based on technology from the University of Texas Health at San Antonio, in the laboratory of Dr. Guangming Zhong
- Vaccine candidate is live attenuated and may provide mucosal immunity with oral delivery method used in initial publication of vaccine candidate
- BWV currently funding non-human primate study to establish animal model & test immunogenicity / efficacy



UT Health



1) 2) 3) 42

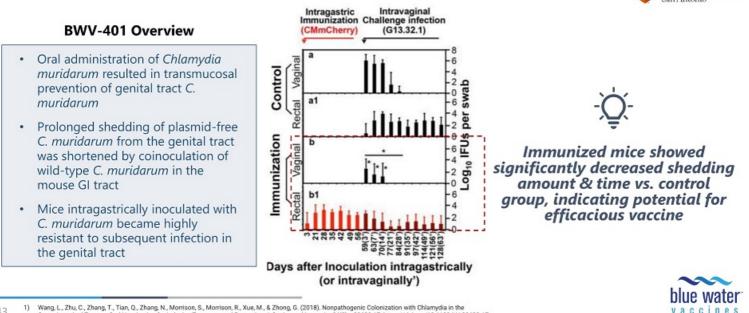
Centers for Disease Control and Prevention, "The State of STDs in the United States in 2021" World Health Organization, Fact Sheets, "Sexually Transmitted Infections (STIs)" Centers for Disease Control and Prevention, "Chlamydia Treatment & Care" Centers for Disease Control and Prevention, "Chlamydia Treatment & Care" Centers for Disease Control and Prevention, "Chlamydia – CDC Basic Fact Sheet"



BWV-401 Approach & Overview

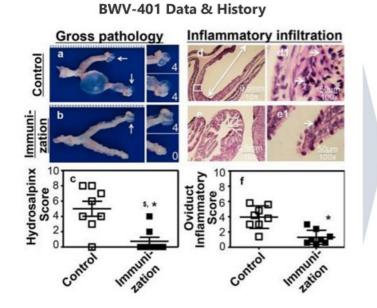
Approach: Administer Chlamydia muridarum orally, inducing mucosal immunity in the GI tract and ultimately prevent infection of Chlamydia in the genital tract





Wang, L., Zhu, C., Zhang, T., Tian, Q., Zhang, N., Morrison, S., Morrison, R., Xue, M., & Zhong, G. (2018). Nonpathogenic Colonization with Chlamydia in the Gastrointestinal Tract as Oral Vaccination for Inducing Transmucosal Protection. Infection and immunity, 86(2), e00630-17. https://doi.org/10.1128/IAI.00630-17 1) 43

BWV-401 Approach & Overview







Immunized mice showed significantly lower levels of Chlamydia pathology in the genital tract & lower oviduct inflammation levels vs. control group, supporting vaccine candidate investigation & development

blue water

 Wang, L., Zhu, C., Zhang, T., Tian, Q., Zhang, N., Morrison, S., Morrison, R., Xue, M., & Zhong, G. (2018). Nonpathogenic Colonization with Chlamydia in the Gastreintestinal Tract as Oral Vaccination for Inducing Transmucosal Protection. Infection and immunity, 86(2), e00630-17. https://doi.org/10.1128/IAI.00680-17

BWV-401 Development Plan & Next Steps

UT Health **BWV-401 Development Plan** Timeline TBD Complete In Progress In Progress Initial Mouse Data & **Optimize Vaccine** Candidate License Technology Primate Model Establish initial data Perform non-human Develop attenuated strain Select Contract Development & Manufacturing supporting vaccine primate study to determine of vaccine candidate to ensure vaccine provides candidate development Organization (CDMO) to if C. muridarum can infect begin scale-up and process Complete license other species and serve as protection but cannot agreement for BWV global basis for vaccine infect individuals development of candidate exclusive license Perform additional Generate efficacy & Generate material for Phase immunogenicity & efficacy 1 clinical trial immunogenicity data studies to support vaccine supporting attenuated candidate development strain blue water vaccines

Summary and Recent Milestones



Vaccine Candidate Developments

BWV-201: Acute Otitis Media & Pneumonia

- May 2022: Expanded St. Jude Sponsored Research Agreement to explore presentation of additional AOM-causing pathogens into BWV-201
- October 2022: Announced new data supporting indication expansion of BWV-201 into S. pneumo-induced pneumonia



BWV-101 & 102: Influenza

April 2022: Presented discovery of H3 and Flu B epitopes of limited variability at World Vaccine Congress

May 2022: Announced collaboration with Instituto Butantan for development of BWV-101 in Brazil



BWV-301 & 302: VLP S&P Platform

July 2022: Signed Sponsored Research Agreement with Cincinnati Children's for VLP Platform Exploration & Development

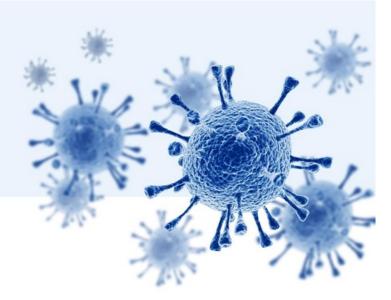
August 2022: Announced exploration of VLP platform applicability to develop a novel monkeypox vaccine candidate

Corporate Developments

- February 2022: Completed \$20M Initial Public Offering (NASDAQ: BVW)
- May 2022: Completed \$8M Private Placement with institutional investors
- July 2022: Completed \$10M Private Placement with institutional investors
- November 2022: Signed global, exclusive, license agreement for Chlamydia vaccine with UT Health
- December 2022: Received "buy" rating from two notable, healthcare-focused banks
- Cash Runway: IPO and subsequent private placements have secured cash runway into Q3 2024







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