UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

CURRENT REPORT Pursuant to Section 13 OR 15 (d) of the Securities Exchange Act of 1934 Date of Report (Date of Earliest Event Reported): February 5, 2021 OCUGEN, INC. (Exact Name of Registrant as Specified in its Charter)

Delaware (State or Other Jurisdiction of Incorporation) 001-36751 (Commission File Number) 04-3522315 (I.R.S. Employer Identification Number)

263 Great Valley Parkway Malvern, Pennsylvania 19355 (484) 328-4701

(Addresses, including zip code, and telephone numbers, including area code, of principal executive offices)

N/A

(Former Name or Former Address, if Changed Since Last Report)

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

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

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.01 par value per share	OCGN	The Nasdaq Stock Market LLC
		(The Nasdaq Capital Market)
Indicate by check mark whether the registrant is an emerging growth company as defined in Rul chapter).	le 405 of the Securities Act of 1933 (§230.40	05 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this
Emerging growth company □		
If an emerging growth company, indicate by check mark if the registrant has elected not to use the Exchange Act. \Box	he extended transition period for complying	with any new or revised financial accounting standards provided pursuant to Section 13(a) of

Item 7.01 Regulation FD Disclosure

Attached as Exhibit 99.1 and furnished for purposes of Regulation FD is a presentation that Ocugen, Inc. ("Ocugen") will post on its website on February 5, 2021 and may use from time to time in presentations or discussions with investors, analysts, and other parties.

The information in this Item 7.01 (including Exhibit 99.1) is being furnished solely to satisfy the requirements of Regulation FD and shall not be deemed to be "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act") or otherwise subject to the liabilities of that Section, nor shall it be deemed to be incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act.

Item 9.01 Financial Statements and Exhibits

The following exhibit is being filed herewith:

(d) Exhibits

Exhibit No.

SIGNATURE

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

Date: February 5, 2021

OCUGEN, INC.

By:

/s/ Shankar Musunuri
Name: Shankar Musunuri
Title: Chief Executive Officer and Chairman



Our Mission is to

Develop **Gene Therapies** to Cure Blindness Diseases

and

Develop a **Vaccine** to Save Lives from COVID-19

NASDAQ: OCGN

Corporate Deck: February 2021



Forward Looking Statement

This presentation contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, contained in this presentation, including statements regarding our business strategy, future results of operations and financial position, prospective products, product approvals, research and development costs, timing and likelihood of success, estimated market size or growth, and plans and objectives of management for future operations, are forward-looking statem When used in this presentation, the words "anticipate," "believe," "contemplate," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "projec "should," "target," "would," and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying we

Forward-looking statements involve known and unknown risks, uncertainties and other factors, including those risks set forth in the Company's filings with the Securities and Excl Commission, which are available at www.sec.gov, that may cause our actual results, performance or achievements to be materially different from any future results, performance achievements expressed or implied by the forward-looking statements. Forward-looking statements are based on our management's beliefs and assumptions and on information available to management as of the date of this presentation. Our actual future results may be materially different from what we expect. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in the forward-looking state even if new information becomes available in the future.

This presentation includes estimates by us of statistical data relating to market size and growth and other estimated data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. This presentation also includes statistical and other industry and market data tha obtained from industry publications and research, surveys and studies conducted by third parties. Industry publications and third-party research, surveys and studies generally in that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. While we belie these industry publications and third-party research, surveys and studies are reliable, we have not independently verified such data.

This communication shall not constitute an offer to sell or the solicitation of an offer to sell or the solicitation of an offer to buy any securities, nor shall there be any sale of secur any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities have been made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.





Ocugen Overview

COVID-19 VACCINE

- ➤ COVAXIN™: Whole-virion inactivated COVID-19 vaccine candidate (with adjuvant). Licensed rights from with Bł Biotech for the US market (currently received EUA in India). Standard vaccine storage condition (2-8°C)
- Promising safety and immunogenicity demonstrated by the Phase 1/2 trials in India. Currently in fully enrolled F clinical trial in India involving 25,800 volunteers
- Potential coverage against multiple protein antigens of the virus and potentially applicable to broader populatic
- ▶ Effectively neutralizes UK variant of SARS-Cov-2 reducing the possibility of mutant virus escape

OCUGEN'S
BREAKTHROUGH
MODIFIER GENE
THERAPY
PLATFORM

- Potential for one product to treat many diseases & multi-factor approach (POC study results published in Nature
- OCU400 (AAV-NR2E3): 4 FDA Orphan Drug Designations with the potential to treat broad Retinitis Pigmentosa (which has over 150 gene mutations, in lieu of developing separate therapies for each mutation under traditional therapy initiation of Phase 1/2a this year
- OCU410 (AAV-RORA): Potential to treat dry age-related macular degeneration (Dry AMD) through multi-factor treatment approach initiation of Phase 1/2 in 2022
- Strategic manufacturing partnership with CanSinoBio (~\$7B market cap) sets clear path for critical manufactur

NOVEL BIOLOGIC

- OCU200: Targeting major retinal diseases: Diabetic Macular Edema (DME), Diabetic Retinopathy (DR), and Wet Related Macular Degeneration (Wet AMD) (estimated global market size over \$10B) initiation of Phase 1/2 in a contract of the c
- Novel MoA: Potential to initially treat non-responders to anti-VEGF/ therapies (~50% of patients)





Leadership Team



Shankar Musunuri, PhD, MBA Chairman, CEO and Co-Founder







Leadership Team



Mohamed Genead, MD Acting CMO and Chair of SAB









Sanjay Subramanian, MBA CFO and Head of Corporate Development





BAUSCH-Health



Vijay Tammara, PhD SVP, Regulatory & Quality









Arun Upadhyay, PhD Head of Research & Development







Jessica Crespo, CPA Corporate Controller











Scientific Advisory Boards

Retina Scientific Advisory Board =



Biogen Allergan







Mark Pennesi, MD, PhD **⊗**







Vaccine Scientific Advisory Board



Satish Chandran PhD







David Fajgenbaum, MD, MBA, MSc, FCPP







Bruce Forrest, MD, MBA, MB, BS marizyme Wyeth Pfizer





Catharine Pachuk, PhD



Harvey Rubin, MD, PhD Penn



Penn





Pipeline Overview

	Program	Indication		Prevalence (US)	ŀ	Discovery	Preclinical	IND-Enabling	Phas
Vaccine	COVAXIN™ Whole-Virion Inactivated Vaccine	Active Immunization to Prevent COVID-19 caused by SARS-CoV-2			 EUA in India for development partner Phase-3 in progress in India by development US EUA pathway in development 			nent p	
		NR2E3 Mutation - Associated Retinal Degeneration *	Orphan US	500 - 600				—	9
Modifier Gene Therapy Platform OCU400 AAV-hNR2E3	RHO Mutation - Associated Retinal Degeneration *	Orphan US	10,400 - 12,700					Л	
	AAV-hNR2E3	CEP290 Mutation - Associated Retinal Degeneration *	Orphan US	2,500 - 3,000					e
	PDE6B Mutation - Associated Retinal Degeneration *	Orphan US	1800 - 2800					ŭ.	
	OCU410 AAV-hRORA	Dry Age Related Macular Degeneration * (Dry AMD)		9M - 10M					
OCU200		Diabetic Macular Edema		0.75M				>	
Novel Biologic	Transferrin-	Diabetic Retinopathy		7.7M					
Tumstatin		Wet Age Related Macular Degeneration (Wet AMD)		1.1M				<u> </u>	



©2021 Ocugen. All Rights Reserved.

* No approved therapies exist https://www.aao.org/eye-health/diseases/retinitis-pigmentosa-treatment https://www.aao.org/eye-health/diseases/amd-treatment

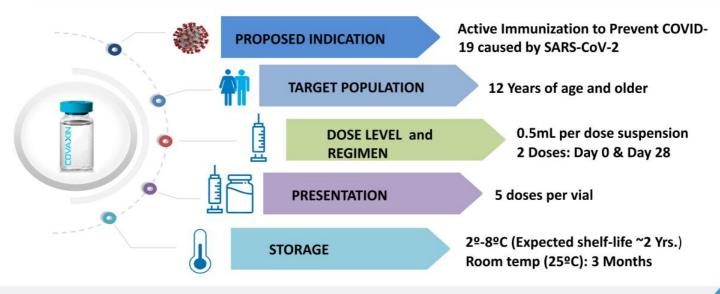


COVAXINTM

Whole-Virion Inactivated COVID-19 Vaccine Licensed from Bharat Biotech (BBIL) for the US Market

COVAXIN™ - Product Profile

Whole virion inactivated SARS-CoV-2 (NIV-2020-770) Antigen concentration & Adjuvant: 6µg + Algel-IMDG(TLR7/8)





Why COVAXIN™

Designed to fill a significant unmet need in our national arsenal of vaccines against COVID-19

- **COVAXIN™** is easy to stockpile, store, and distribute
 - > Standard vaccine storage conditions (2-8°C). 3-month stability at room temperature
- **COVAXIN™** elicits broad spectrum immune response → 98.3% Seroconversion
 - Both humoral & cellular responses generated against multiple viral proteins
 - Effectively neutralizes UK variant of SARS-Cov-2 reducing the possibility of mutant virus escape
- COVAXIN™ is based on a proven technology platform (inactivated virus)
 - Proven technology platform and supply chain currently used for several licensed vaccines (Influenza, Polio, Rabies, JEV etc.).
 - Technology platform historically demonstrated acceptable safety, tolerability, and efficacy in children and adults
 - Phase 2 clinical studies covered pediatric population (12+)
- COVAXIN™ formulation induces a Th1 response (cell-mediated immunity)



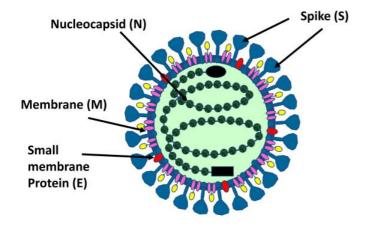


COVAXIN™ Presents Multiple Protein Targets to the Immune System Resulting in Broad Spectrum Response

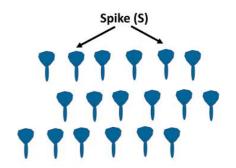


COVAXIN™, an adjuvanted inactivated virus vaccine candidate, elicited strong IgG responses against spike (S1) protein, receptor-binding domain (RBD), and the nucleocapsid (N) protein of SARS-CoV-2 along with strong cellular responses

COVAXINTM



mRNA and Adenovirus-Based Va





COVAXIN™ is Distinct Amongst Leading COVID-19 Vaccines and Select Vaccine Candidates in the United States

Company	Technology	Antigen	Stage
COVAXIN™	Inactivated SARS CoV-2 Virus, Aluminum hydroxide, TLR agonist	Whole virus (Including S & N Proteins)	EUA in India; pre-EUA discussions with FDA
Pfizer/ BioNTech	Lipoplex of SARS CoV-2 S protein mRNA	S protein	EUA
Moderna	Lipoplex of SARS CoV-2 S protein mRNA	S protein	EUA
AstraZeneca	Non-replicating infectious Adenovirus	S protein	EUA in India & UK
Johnson & Johnson	Non-replicating infectious Adenovirus	S protein	Ph 3





Technology Comparisons: Target Product Profile

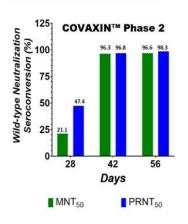
Characteristic	mRNA	Adeno- Based	COVAXIN™
Acceptable Safety	✓	✓	✓
Neutralizing antibody response	✓	✓	√ +
Cellular responses against multiple viral antigens	✓	✓	√ +
Efficacy	✓	✓	√ +
Stability at 2-8°C	x	✓	✓
Multiple Viral Antigens	X	X	✓

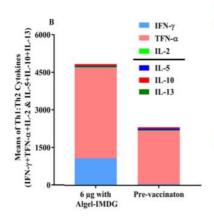
"+": B and T cell immune responses to multiple proteins, Safety and Efficacy in Phase 1 and Phase 2 studies



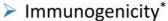


COVAXIN™: Safety and Immunogenicity





Events	Rate (%)	CI
Local	4.2% (1.8, 8.1)	95%
Systemic	7.4% (4.1, 12.1)	95%
Serious	0%	
Combined	10.3% (7.4, 13.8)	95%



- High Seroconversion rates in both MNT₅₀ a PRNT₅₀ measured up to day 56
- Induction of Th1 cell mediated immunity a measured by IFN- γ , IL-2, TNF- α

Safety*

- No vaccine-related severe or life-threatening adverse events reported to date
- Mild to moderate events significantly lowe those observed in mRNA vaccines**

Ongoing Phase 3

- Enrollment complete (25,800 subjects)
- No reported vaccine-related SAEs
- Unblinded data are expected in early Marc

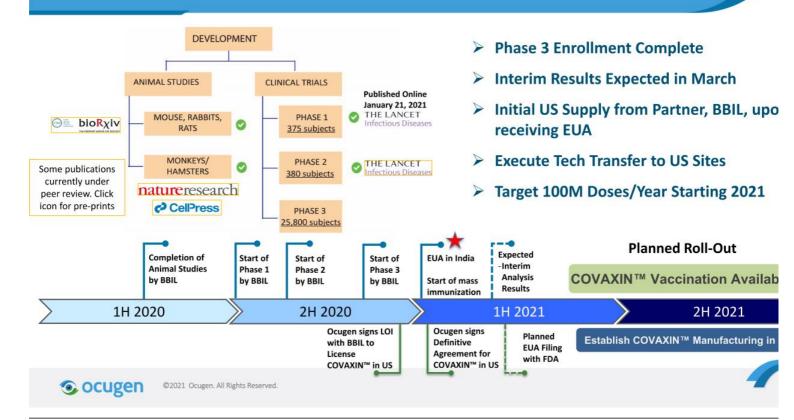


©2021 Ocugen. All Rights Reserved.

*: https://www.medrxiv.org/content/10.1101/2020.12.21.20248643v1
**: https://www.fda.gov/media/144325/download



COVAXIN™ Progress and Planned Milestones for U.S. Dev.

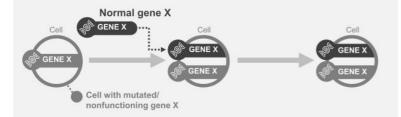


Ocugen's Modifier Gene Therapy Platform Breakthrough Technology Designed to

Address Multiple Diseases with One Product
Approach Complex Diseases Through Multiple Factors

Traditional Approach vs. Ocugen's Novel Platform

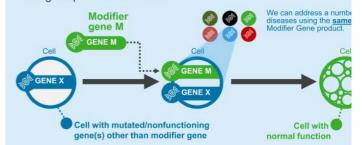
Gene Augmentation: Transfer functional version of a non-functional gene into the target cells.





- Traditional approach that targets one individual gene mutation at a time
- Regulatory pathway focused on specific product for one disease
- Longer time to recoup development costs

Modifier Gene Therapy: Introduce a functional gene to modify expression of many genes, gene-networks and regulate basic biological processes in retina





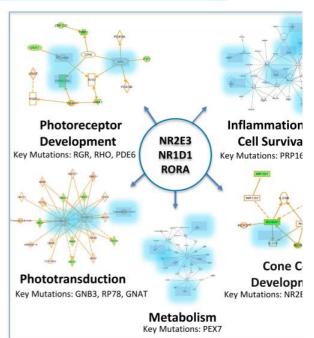
- Novel approach that targets nuclear hormone genes (NHRs), which regulate multiple functions within the retina
- Smoother regulatory pathway due to ability to target multiple diseases with oproduct
- Ability to recoup development costs over multiple therapeutic indications





Why Target Nuclear Hormone Receptor Genes (NHRs)?

- Modulators of retinal development & function
- Act as "master genes" in the retina
- Molecular reset of key transcription factors and associated gene networks - retinal homeostasis
- Gene modifier concept including impact on clinical phenotypes is well known in other disease areas, CF and SMA *





©2021 Ocugen. All Rights Reserved.

* References: https://pubmed.ncbi.nlm.nih.gov/28556246/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5409218/ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4339951/ https://iournals.plos.org/plosone/article?id=10.1371/journ



Nature Gene Therapy Publication

Preclinical POC Data for Nr2e3 Published in Nature Gene Therapy

- Efficacy results shown in 5 unique mouse models of RP
- Technology developed at Harvard Medical School, Dr. Neena Haider's Lab
- > Study demonstrates potency of modifier gene therapy to elicit broad-spectrum therapeutic benefit early and advanced stages of RP
- > Results show evidence of vision rescue in Early & Advanced Stages of disease



- Important milestone for development of therapy; demonstrated proof of principle
- Protection elicited in multiple animal models of degeneration caused by different mutations
- Potential to represent first broad-spectrum therapy and to provide rescue even after disease onsi

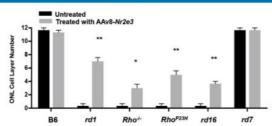






OCU400 - Rescue in Early & Advanced Stage of Disease

Early Stage Rescue



- P0 single subretinal injection, evaluation 3-4 months post injection
- · rd1 evaluated one-month post injection

ONL: Outer Nuclear Layer

ONI Cell Layer Number 15 Per 10 Per 1

Advanced Stage Rescue

☐ Uninjected ■ AAV8-Nr2e3 Injected

- P21 subretinal injection, evaluation 2–3 months post injection
- Restored ONL photoreceptors morphology in rd7
- ONL cell layer change in rd7 model doesn't progress until 4-5 mos. of ag



Fundus images and ONL count show how single product recuses vision in multiple mutations



©2021 Ocugen. All Rights Reserved

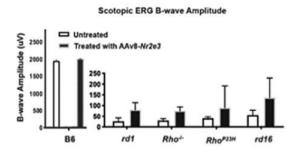
natureresearch

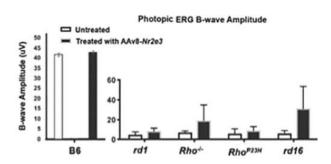
https://www.nature.com/articles/s41434-020-0134-z



OCU400 – Demonstrates Improved Vision Signals in Retina

Electroretinogram (ERG) Response Reveals Rescue under Both Scotopic (dim-lit) as well as Photopic (well-lit) Conditions





ERG response: PO single subretinal injection, evaluation 3-4 months post injection

Human vision is enabled by three primary modes:

- Photopic vision: Vision under well-lit conditions, which provides for color perception and functions primarily due to cone cell the eye
- Mesopic vision: A combination of photopic vision and scotopic vision in low lighting, which functions due to a combination of and cone cells in the eye
- Scotopic vision: Monochromatic vision in very low light, which functions primarily due to rod cells in the eye



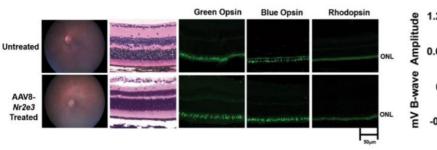
©2021 Ocugen. All Rights Reserved.

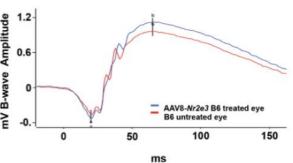
natureresearch https://www.nature.com/articles/s41434-020-0134-z



OCU400 - Demonstrated Safety in Mouse Model

Study Results Confirm Overexpression of Nr2e3 by subretinal AAV8-Nr2e3 Injection Is Not Detrimental to Retina – No Off-Target Effects



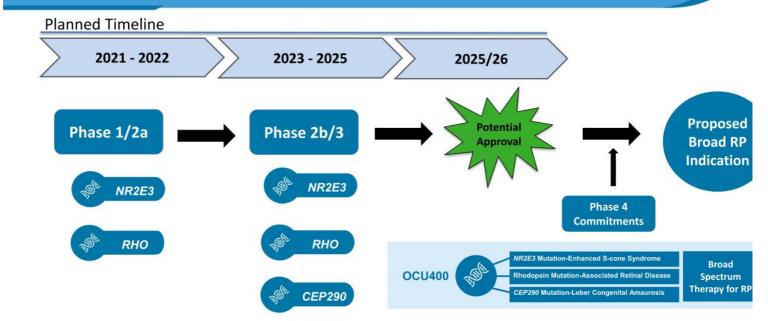








OCU400 - Clinical and Regulatory Strategy





OCU400 – Competitive Overview

	OCU400	Traditional Gene Therapy	Cell Therapy	
Features	ocugen	Roche HORAMA Biogen MEIRAGT SANOFI	≫astellas jCyte ReNeur o n	
One product for many IRDs (including broad RP indication)		8	Limited	
Technology established in the ocular disease space		\bigcirc	×	
POC data in RP models with different genetic mutations	\bigcirc	8		
Expected long-term outcome	Potentially longer benefit due to promotion of homeostasis	Potentially limited due to loss of retinal cells over time	Not established	
Target Patient Population	Large	Small (specific to mutation)	Variable	
Developmental cost	Low (economies of scale)	High (No economies of scale)	High	







OCU410 (AAV-RORA) – Dry Age-Related Macular Degeneration

We Believe OCU410 Has the Potential to Address this Disease through its Multi-Factor Approach



Normal Retina

Dry AMD

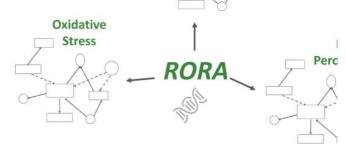
- Leads to irreversible blindness due to degeneration of the retina
- ~9-10M patients in the U.S.
- Currently no approved treatment for Dry AMD





Genetics

Environmental Factors



Inflammation



Dry AMD

©2021 Ocugen. All Rights Reserved.

References: https://www.brightfocus.org/macular/article/age-related-macular-facts-figures

https://www.uniprot.org/uniprot/P35398#function https://pubmed.ncbi.nlm.nih.gov/21998696/ https://pubmed.ncbi.nlm.nih.gov/19786043/



Gene Therapy Manufacturing

Partnership Helps Advance OCU400 into the Clinic with Significantly Reduced Capital and Resource







Ocugen Partnership with CanSino Biologics Inc. (CanSinoBIO)

CanSinoBIO to perform CMC development & manufacturing of clinical supplies for OCU400

- Publicly-listed (6185.HK) with market cap of ~\$7B
- State-of-the-art facilities with world class team
- Provides scalable GMP cell lines (such as HEK293 suspension culture adopted) for commercial manufacturing
- Responsible for all associated costs (typical costs until BLA filing ~\$25M-\$35M)
- Manufacturing at commercial scale (200L) for Phase 1/2 for product consistency

CanSinoBIO has rights to develop, manufacture and commercialize OCU400 for Greater China Market

- Ocugen to receive mid to high single-digit royalties on Greater China sales
- CanSinoBio to receive low to mid single-digit royalties on all other global sales



©2021 Ocugen. All Rights Reserved.

Source: Manufacturing Cures: Infrastructure Challenges Facing Cell And Gene Therapy Developers In Vivo June 2019 invivo.pharmaintelligence.informa.com Bloomberg: How a Chinese Firm Jumped to the Front of the Virus Vaccine Race



OCU200:

Diabetic Macular Edema (DME)
Diabetic Retinopathy (DR)
Wet Age-Related Macular Degeneration (Wet AM

Novel Biologic Offering Benefits Beyond Anti-VEGF

OCU200 - Potential to Treat DME, DR & Wet AMD

OCU200 Provides Hope to All patients with DME, DR or Wet AMD

DME \rightarrow ~0.7M patients in the US* DR \rightarrow ~7.7M patients in the US* Wet AMD \rightarrow ~1.1M patients in the US*

~50% of Patients <u>DO NOT</u> Respo to Anti-VEGF/Corticosteroids Therapies

OCU200 is a Transferrin-Tumstatin Fusion Protein

- Tumstatin: Multiple MOAs for treatment and prevention of macular degeneration and neovasculariza
- Transferrin: Targets the site of action and improves uptake (better target engagement)
- Integrin Targeting provides hope to these patients who are non-responders to current therapies
- Distinct MOA through targeting Integrin pathways can potentially also help reduce number of injections for patients who do respond to Anti-VEGF & corticosteroids therapies
- Significant global market potential



©2021 Ocugen. All Rights Reserved

https://www.gene.com/stories/retinal-diseases-fact-sheet https://www.brightfocus.org/macular/article/age-related-macular-facts-figures



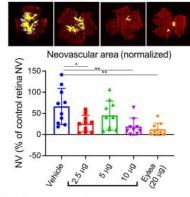
OCU200 - Transferrin-Tumstatin Fusion Protein

OCU200 Demonstrated Superior Efficacy Compared to Existing Anti-VEGF Therapies

- · Inhibits new blood vessel formation
- Anti-inflammatory
- Anti-oxidative

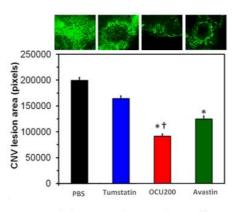
DME/DR Oxygen-Induced Retinopathy (OIR) Mouse Model

OCU200



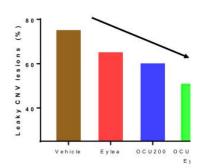
Effect of OCU200 intravitreal treatments on Neovascularization (NV). Data are presented as mean± SD. Filled circles represent data points from individual eyes * P < 0.05, ** P < 0.01 (n = 9-10 eyes per group)

Wet AMD In-Vivo Laser-Induced Rat CNV Model



- * indicates p<0.05 when compared to PBS and/or
- † indicates p<0.05 when compared to Avastin; CNV lesions measured on day 14 after treatment

Wet AMD In-Vivo Laser-Induced Mouse CNV



Data expressed as percentage of CNV lesions 10 after treatment, Laser induction & treatme





OCU200 – Distinct Mechanism of Action

We believe OCU200 has the potential to become a disease modifying therapeutic for broader patient population

	OCU200	Anti-VEGF	Anti-Integrin	
Features	ocugen	Genentech ^{ta} (NOVARTIS ^{ta} REGENERON KODIAK	SASCLEPIX Allegro	
Reduces VEGF level/Fluid				
Selectively works on active endothelial cells (Neovascular)		8	\bigcirc	
Activates native anti-angiogenic response				
Enhanced effective delivery through Transferrin		8	8	
Pro-apoptotic and anti-oxidative		8		
Dosing Frequency	Expected once in 3 months	1-3 months	1-3 months	

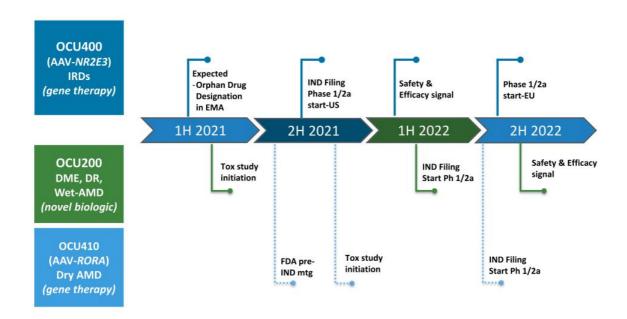


©2021 Ocugen. All Rights Reserved.



(1) Approved

Ophthalmology Milestones: Planned Timeline







Investment Highlights

- ➤ COVAXIN™ Vaccine candidate for the US market with potential for significant revenues this year
- Ophthalmology
 - Modifier Gene Therapy Platform has the potential for one producto treat many diseases
 - Novel biologic has the potential to treat anti-VEGF /corticosteroid non-responders (~50% of the patients)
 - Multiple near and mid-term milestones with plan to initiate four Phase 1/2 trials over next 18 months





A Bold Vision to Cure Blindness Diseases and Offer a Differentiated Vaccine to Save Lives from COVID-19

For more information, contact: IR@ocugen.com

