

# **FOCAL POINT**

Cannabinoids and the Eye

OTCQB: SKYE December 2022

skyebioscience.com · 1

### **FORWARD LOOKING STATEMENTS**

This presentation contains "forward-looking statements", including statements regarding Skye Bioscience, Inc. "Skye Bioscience and/or the Company", within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. All statements in this presentation, whether written or oral, that refer to expected or anticipated future actions and results of Skye Bioscience are forward-looking statements. In addition, any statements that refer to expectations, projections or other characterizations of future events or circumstances are forward-looking statements. These forward-looking statements reflect our current projections and expectations about future events as of the date of this presentation. Skye Bioscience cannot give any assurance that such forward-looking statements will prove to be correct. The reader is cautioned not to place undue reliance on these forward-looking statements.

The information provided in this presentation does not identify or include any risk or exposures of Skye Bioscience that would materially adversely affect the performance or risk of the company. For a description of the risks and uncertainties related to the business of Skye Bioscience, see our Annual Report or Form 10-K filed with the Securities and Exchange Commission and our subsequent periodic reports filed with the Securities and Exchange Commission. All information contained in this presentation is provided as of the date of the presentation and is subject to change without notice. Neither Skye Bioscience, nor any other person undertakes any obligation to update or revise publicly any of the forward-looking statements set out herein, whether as a result of new information, future events or otherwise, except as required by law. This presentation shall not constitute an offer to sell or the solicitation of an offer to sell or the solicitation of an offer to sell or the solicitation of an offer to sell or sell or the solicitation of an offer to registration or qualification under the securities laws of any such jurisdiction. This is presented as a source of information and not an investment recommendation.



### **INVESTMENT SUMMARY**

Innovation in ophthalmology to unlock the potential of novel cannabinoid derivatives



Phase 1: dosing started for CB1R agonist program in Dec-22 Phase 2: Received FDA okay to proceed for its Investigational New Drug application; plan to start in USA H1 2023



Transformative new class of therapeutics may play a role in multiple ocular indications



Preclinical foundation for glaucoma with strong ocular R&D capability and pipeline



Multiple academic collaborations to expand pipeline of novel cannabinoid derivatives



Pursuing collaboration and partnership opportunities for programs

### **STRATEGY FOR GROWTH AND VALUE CREATION**

Advance distinct new class of therapeutics to positively impact health of patients with ocular and other diseases

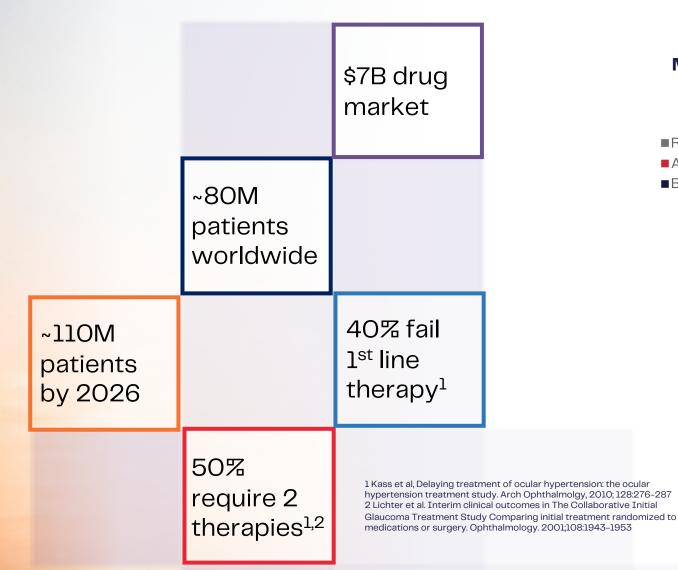
Seeking to affect the endocannabinoid system for therapeutic outcomes via the development of cannabinoid derivatives and small molecule drugs

Expand ophthalmology-focused pipeline with new target indications/products in 2023

Clinical plan designed for relevant outcomes with optimized time and cost

### **GLAUCOMA: LARGE, WITH UNMET NEEDS**

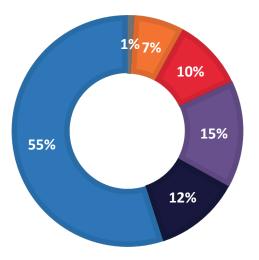
World's leading cause of irreversible blindness



#### MARKET PREDOMINATLY LEGACY CLASSES OF DRUGS AND GENERIC COMPOUNDS

ROCK InhibitorAlpha AgonistBeta Blockers

Carbonic Anhydrase InhibitorFixed ComboProstaglandin Analogs



### **PATHOPHYSIOLOGY OF GLAUCOMA**

Intraocular pressure (IOP) currently the main addressable risk factor

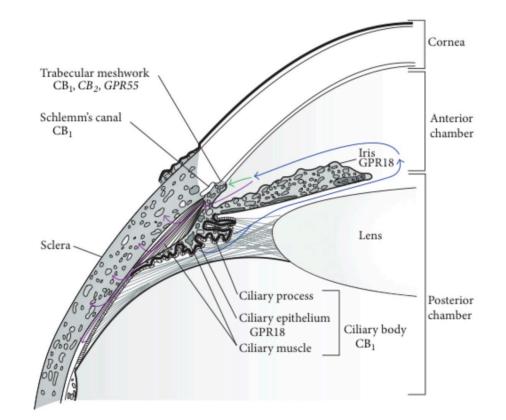
Normally, aqueous Generating progressive vision loss and blindness humor circulates in if not treated the eye G but. Þ Damaging blood vessels When drainage canal is and optic nerve... blocked, more aqueous humor stays in the eye...

Increasing pressure inside the eye...

skyebioscience.com • 6

### **NEW FRONTIER FOR GLAUCOMA**

- CB1 receptors are in tissue responsible for fluid production (ciliary body) and drainage (trabecular meshwork, Schlemm's canal)
- Activation of CB1 receptors by an agonist such as THC has been shown to be involved in IOP– lowering activity
- Multiple human studies dating to early 1970s demonstrated THC's ability to lower IOP
- Multiple preclinical studies demonstrated THC's ability to be neuroprotective to cells of the optic nerve
- However, systemic administration of THC poses PK/PD challenges and potential adverse effects



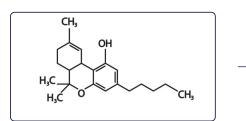
Circulating aqueous humor (blue), flowing from the ciliary body in the posterior chamber to the anterior chamber, is filtered out of the eye through two different outflow pathways: the trabecular meshwork pathway (green) and the uveoscleral pathway (purple).

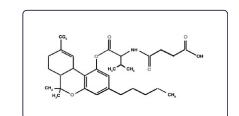
1 Cairns et al, The Endocannabinoid System as a Therapeutic Target in Glaucoma. Neural Plasticity, 2016; Article ID 9364091

### **DESIGNING AN EFFECTIVE THERAPY**

Cannabinoid prodrug enabling local delivery into the eye, with increased efficacy and limiting systemic exposure

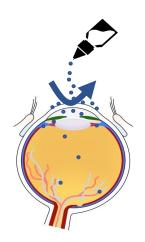
- THC is lipophilic and not easily delivered into the eye topically
- SBI-100 is a prodrug of THC that increases solubility and polarity of THC, allowing it to better penetrate ocular tissue
- Inside the eye, SBI–100 is converted back into THC
- SBI-100 OE proprietary nanoemulsion formulation further enhances delivery of THC to ocular tissue, resulting in greater IOP-lowering effect and duration

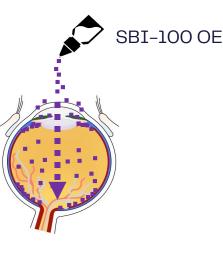




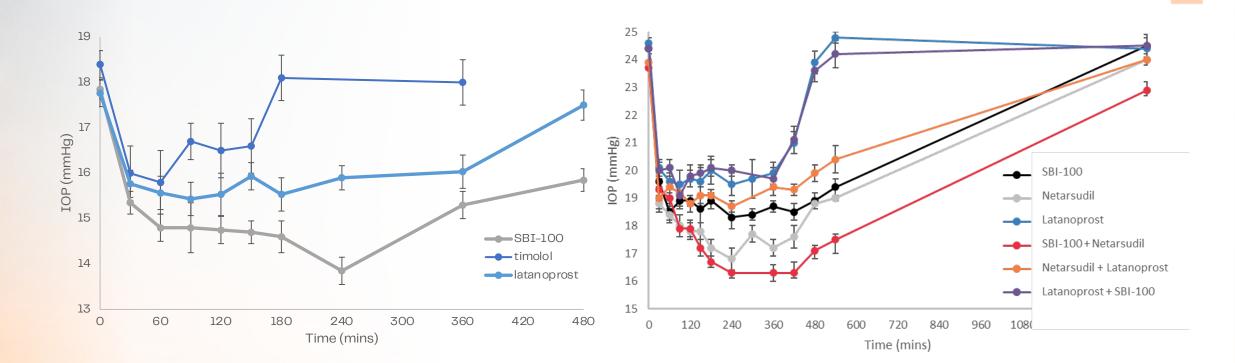
тнс

SBI-100





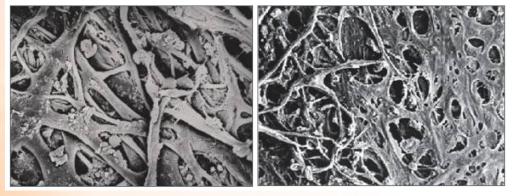
### **SBI-100 HAS DEMONSTRATED SUPERIOR IOP LOWERING COMPARED TO STANDARD OF CARE**



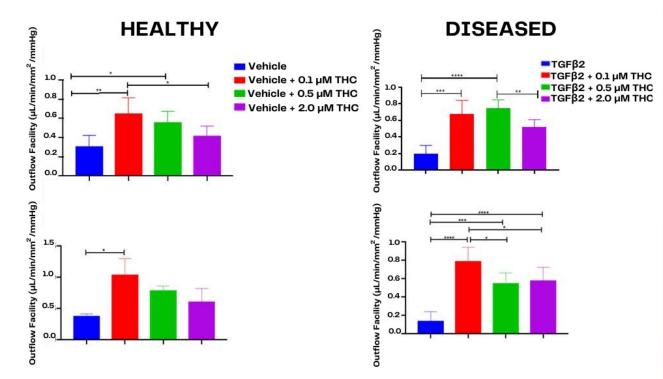
In multiple preclinical studies, SBI–100 demonstrated superior IOP lowering compared to leading therapies as a single agent In preclinical studies, SBI–100 demonstrated enhanced efficacy when combined with other approved therapies

### **INCREASED OUTFLOW VIA TRABECULAR MESHWORK**

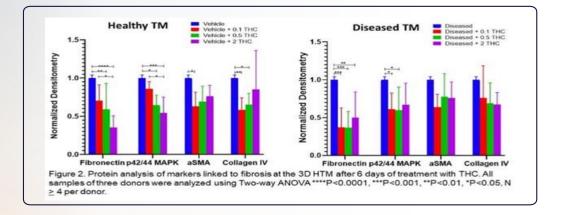
- The trabecular meshwork (TM) accounts for 90% of aqueous humor outflow (drainage)
- Restricted outflow through TM and fibrosis in tissue may be key to underlying pathophysiology of glaucoma
- The TM is avascular and depends on outflow for nutrients and health; restricted outflow leads to further structural deterioration
- In a 3D model of human TM cells, SBI-100's active pharmaceutical ingredient significantly increased outflow in both healthy and diseasesimulated tissue

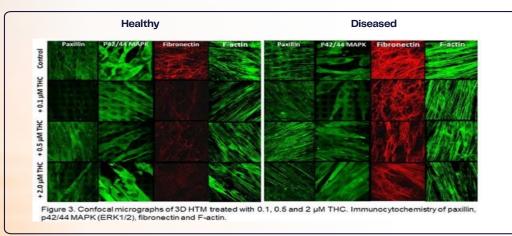


Normal TM (left), Primary open-angle glaucoma (POAG) TM (right)



### **REDUCED MARKERS OF INFLAMMATION & FIBROSIS**





- SBI-100 significantly reduced markers associated with fibrosis and inflammation, which are associated with glaucoma
- Potentially disease-modifying through extracellular matrix remodeling of the trabecular meshwork
- Multi-factorial mechanism of action, including antiinflammatory and anti-fibrotic responses
- Potential new class of treatment with therapeutic attributes distinct from existing IOP-lowering drugs

### **SBI-100 OE: ADDRESSES MULTIPLE ISSUES WITH CURRENT TREATMENT OPTIONS**

#### ✓ Targets area of disease

- Most drugs do not target the main site of disease-causing increased IOP -- the trabecular meshwork (TM)
- SBI-100 OE directly targets the TM and may increase flow through the eye as well as uveoscleral pathways
- SBI-100 OE may decrease fibrosis in the TM, the main cause of blockage to flow

#### Potential combination and add-on to current therapies

- Other drugs cause local and systemic side effects
- Most drugs do not combine well with each other

#### Neuroprotective capabilities

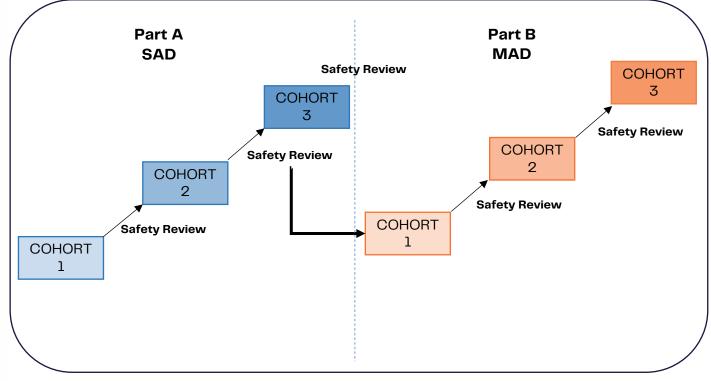
 This class of molecule has shown potential benefits to promote health and survival of optic nerve cells – sparing of retinal ganglion cells (RGCs) – in glaucoma models



### **SBI-100 OE: PHASE 1 SAFETY SAD/MAD DESIGN IN HEALTHY VOLUNTEERS**

#### Dosing for first cohort completed; second cohort planned for February 2022

- Randomized, double-masked, placebocontrolled
- Objectives: Evaluate safety, tolerability, and effect on intraocular pressure (IOP) in healthy subjects in single and multiple ascending dose arms
- ~48 subjects topically administered SBI-100 OE or placebo on a single eye in SAD and MAD arms
- Safety review committee meetings held prior to each dose escalation and between SAD/MAD
- As a new chemical entity and regulated controlled substance, demonstrating safety in a controlled healthy volunteer study is important for development of SBI-100 OE



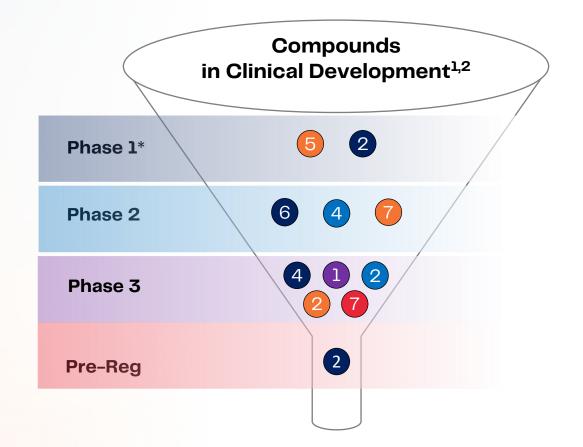
The study comprises 2 arms of 3 cohorts with 8 participants each (6 receiving SBI-100 OE and 2 placebo)

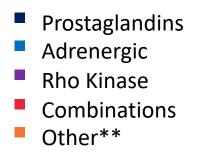
### **SBI-100 OE – CLINICAL DEVELOPMENT PLAN**

Preclinical Proof-of-Concept	Phase 1 Safety & Tolerability	Phase 2 Clinical Proof-of-Concept	Phase 2/3 Efficacy & Safety
Nonclinical and CMC			
<ul> <li>Nonclinical MOA POC</li> <li>Nonclinical efficacy POC</li> <li>Formulation development</li> </ul>	<ul> <li>Nonclinical safety and toxicology work completed</li> <li>Manufacture drug product for Phase 1</li> </ul>	<ul> <li>Long-term chronic toxicology</li> <li>Safety pharmacology</li> <li>Manufacturing process development and optimization</li> <li>Manufacture P2 drug product</li> </ul>	<ul> <li>Reproductive toxicology</li> <li>Carcinogenicity toxicology</li> <li>Biodistribution</li> <li>Manufacturing optimization</li> </ul>
Clinical			
<ul> <li>Target product profile</li> <li>Protocol design and development</li> </ul>	<ul> <li>Dosed first cohort of first-in- human SAD/MAD P1 study</li> <li>Complete dosing of P1</li> <li>Phase 1 data analysis</li> </ul>	<ul> <li>Begin enrolling Phase 2 proof– of–concept study</li> <li>Complete dosing of P2</li> <li>Phase 2 data analysis</li> </ul>	<ul> <li>Phase 2b efficacy &amp; safety</li> <li>Phase 3 efficacy &amp; safety</li> </ul>
Regulatory			
<ul> <li>Regulatory strategy</li> <li>Pre-IND Meeting</li> </ul>	<ul> <li>Australian Human Research Ethics Committee approval to start Phase 1</li> </ul>	✓ FDA IND authorization	<ul> <li>FDA end-of-Phase 2 meeting</li> <li>FDA NDA submission</li> </ul>

### **INDUSTRY GLAUCOMA PIPELINE LACKS INNOVATION**

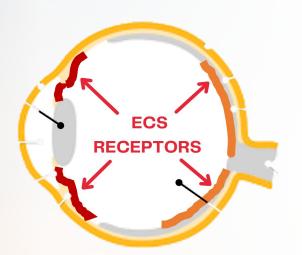
Late-stage assets dominated by legacy MOAs or combinations



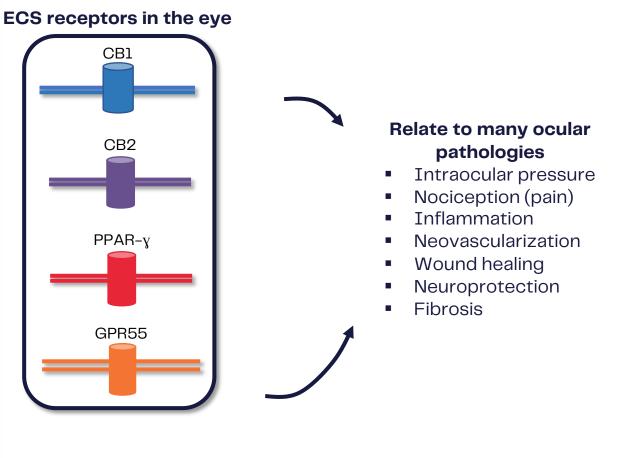


**\*\***Carbonic Anhydrase 2 Inhibitor, Receptor Type Tyrosine Protein Phosphatase Beta Inhibitor, Cholinergic Muscarinic Receptor Agonist, Sulfonamide Protein Kinase Inhibitor, C1q Inhibitor, Potent Corticosteroid Agent, Ciliary Neurotrophic Factor (CNTF), KATP Channel Vessel Relaxer

### **NOVEL CLASS OF TARGETS FOR OPHTHALMOLOGY**



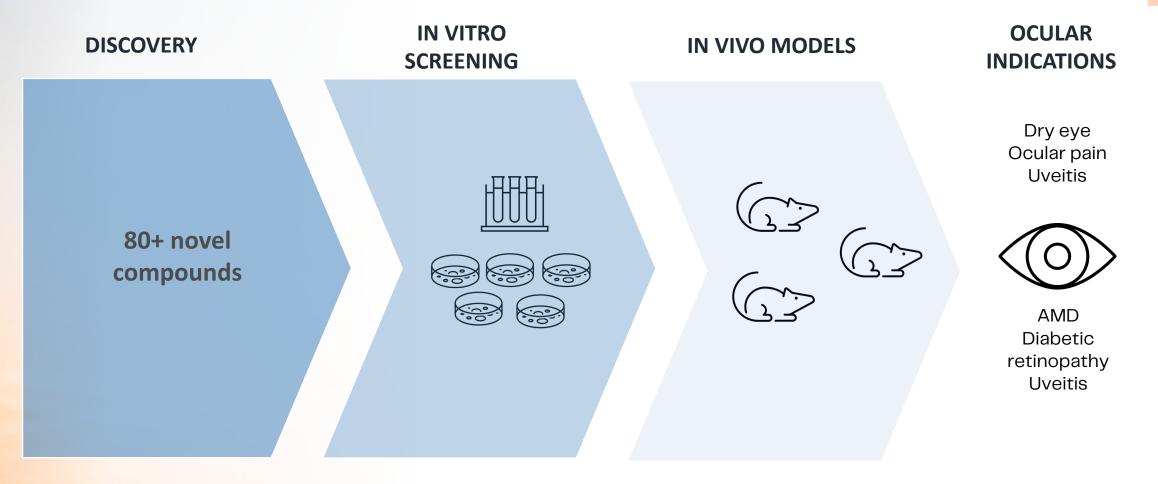
- Endocannabinoid system (ECS) plays vital role in controlling an array of functions in the body
- Affecting the ECS may provide therapeutic benefit for multiple diseases, including in the eye
- ECS receptors found throughout the eye shown to be involved in a broad set of ocular functions and pathologies



Cannabinoid receptor-rich environment of eye creates ripe opportunity for drugs targeting these receptors to affect ocular diseases and specifically glaucoma

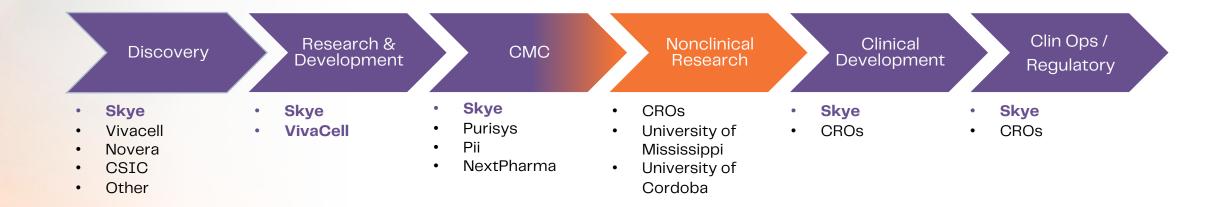
### PROPRIETARY IN VITRO SCREENING PLATFORM FOR OCULAR DISEASES

Cannabinoid Pharmaceutical Innovation Program (CPIP)



### EXPERT DRUG DEVELOPMENT CAPABILITY

Internal/external resources provide knowledge/flexibility to advance controlled substances through the pharmaceutical drug development path



### **CATALYSTS TO ADVANCE OUR GROWTH**

Bold innovation in ocular applications to unlock full potential of novel class of cannabinoid derivatives

#### SBI-100 OE: PHASE 1

- ✓ Q1-22: Completion of GLP toxicology studies
- Q2-22: AUS Human
   Research Ethics Committee
   (HREC) approval to start
   Phase 1 study
- ✓ Q4-22: Begin Phase 1 enrollment
- ✓ Q4–22: Begin P1 dosing
- Q2-23: Phase 1 data

#### SBI-100 OE: PHASE 2

- ✓ Q4–21: Pre–IND meeting with the FDA
- ✓ Q4–22: Submit Investigational New Drug application to FDA
- ✓ Q1–23: IND authorization
- □ H1-23: Phase 2 initiation
- O1-24: Phase 2 data

#### **STRATEGIC MILESTONES**

- ✓ Q4-21: Neuroprotection study to assess SBI-100 potential to spare vision loss
- ✓ H2-22: Close corporate acquisition for capital resources
- Early-stage research & pipeline expansion (including in Canada)
- H1-23: Phase 2 efficacy study initiation. New product-driven intellectual property

### SENIOR MANAGEMENT

#### **Punit Dhillon**

#### Chief Executive Officer & Chair

 Co-founded and led OncoSec (NASDAQ: ONCS), a cancer immunotherapy company, through early development and partnership with Merck to launch Phase 2/3 multicenter trial. Previously VP, Finance & Operations for Inovio Pharmaceuticals

#### Tu Diep, MSc

#### Chief Development Officer

 Over 15 years' experience in research, clinical and strategic operations, business process, CMC, regulatory affairs, and business development

#### Kaitlyn Arsenault, CPA

#### Chief Financial Officer

Over 14 years of experience in accounting, auditing, financial reporting, mergers and acquisitions, as well as business operations in the life science and technology sectors

#### **Chris Twitty, PhD**

#### Chief Scientific Officer

 25+ years in R&D, drug pipeline expansion, CMC, non-clinical, regulatory, biomarker discovery and clinical biomarker strategies

### **BOARD OF DIRECTORS**

#### **Punit Dhillon**

#### Chair

 Co-founded and led OncoSec (NASDAQ: ONCS), a cancer immunotherapy company, through early development and a partnership with Merck to launch a Phase 2/3 multi-center registration clinical trial. Previously VP, Finance & Operations for Inovio Pharmaceuticals (NASDAQ: INO).

#### Keith Ward, PhD

#### Director

 Over 25 years of experience in the biotech and pharmaceutical industry. Currently President and CEO of InterveXion Therapeutics. Previously served as Global Vice President of Pharmaceutical R&D at Bausch & Lomb.

#### Margaret Dalesandro, PhD

#### Director

 Over 25 years of drug development experience in pharmaceutical, biotechnology, and diagnostics industries. Currently President of Brecon Pharma Consulting.

#### Praveen Tyle, PhD

#### Director

 Over 37 years of broad pharmaceutical executive leadership. Currently President, CEO, and Director of Invectys, Inc. Experienced in ocular disorders with a wealth of academic insight. Previous senior leadership positions at Novartis and Bausch & Lomb.

#### Bobby Rai, BPharm RPh

#### Director

 Over 20 years' experience operating The Medicine Shoppe Pharmacies in Vancouver, Canada. Introduced HIV point-of-care testing as well as lab testing (including chronic kidney disease screening using HealthTab technology) into community pharmacies.

### **ADVISORS**

#### CLINICAL

#### **Robert Ritch, MD**

Prof. of Ophthalmology, Mt. Sinai

Shelley and Steven Einhorn
 Distinguished Professor of
 Ophthalmology; Surgeon Director
 Emeritus and Chief, Glaucoma
 Services, The New York Eye & Ear
 Infirmary; Professor of Ophthalmology,
 The New York Medical College

#### Louis Pasquale, MD

#### Prof. of Ophthalmology, Mt. Sinai

 Professor Ophthalmology, Icahn School of Medicine, Chair, Department of Ophthalmology, Vice Chair of Translational Ophthalmology Research, Mount Sinai Healthcare System

#### SCIENTIFIC

#### Eduardo Muñoz, MD, PhD

#### Prof. of Immunology, U. Córdoba

 Over 30 years of experience in biomedical research, focused on cannabinoids, pharmacology, and inflammation, providing deep expertise in the mechanism of actions of cannabinoids and the development of novel cannabinoid–derived molecules

#### Jeffery Goldberg, MD, PhD

#### Prof. of Ophthalmology, Stanford

 Professor and Chair of Ophthalmology and Director of Spencer Center for Vision Research at Byers Eye Institute, Stanford University

#### Miguel González-Andrades, MD, PhD

#### Clinician-Scientist of Ophthalmology

 Clinician-scientist, ophthalmologist at Reina Sofia University Hospital, Assistant Professor and Research Scientist at Maimonides Biomedical Research Institute of Córdoba – University of Córdoba

#### Giovanni Appendino, PhD

#### Prof. of Organic Chemistry, U. Piedmont

 Over 40 years of research in natural products, leading to the discovery and isolation of over 200 novel compounds, including novel cannabinoids and chemistry for cannabinoid–derived molecules

### **INVESTMENT SUMMARY**

Bold innovation in ophthalmology to unlock the potential of proprietary cannabinoid derivatives



Enrolling Phase 1 for CB1R agonist program; Received FDA okay for IND to start studies in US, enabling planned Phase 2



Transformative new class of therapeutics may play a role in multiple ocular indications



Solid clinical and preclinical foundation for glaucoma with upcoming meaningful clinical inflection points



Engaging in academic collaborations to expand pipeline of novel cannabinoid derivatives



Pursuing partnership opportunities for programs

#### Cash and securities<sup>1</sup>

Common shares o/s	912.2 M
Options, warrants and RSUs	247.2 M
Common shares f/d	1,165 M
Cash	\$8.6 M
Working capital	\$7.5 M



### Market cap: \$11.6 M<sup>2</sup>

#### **Incremental capital: sale of non-core asset for \$9.3M**

Entered share purchase agreement for non-core operating facility for aggregate purchase price of \$9.3M on 22/11/10

- (\$0.5 M deposit already reflected in cash figure)
- •~\$6.0 M to be paid at close
- 3 installments of ~\$0.9M to be paid on 18, 30, 42-month anniversaries of closing date

## **THANK YOU**

#### To learn more, please contact:

Punit Dhillon Chief Executive Officer & Chair ir@skyebioscience.com +1 (858) 410-0266

### CLINICAL STUDIES HAVE DEMONSTRATED CANNABINOIDS LOWER IOP

Subjects	Administration route	Observations
15 male, 18-30 years old	Smoking marijuana (12 mg $\Delta^9$ THC)	Significant IOP decrease after 80 min, more frequent users showered lower or no IOP drop
10 healthy volunteers, 20-30 years old	0.022 or 0.044 mg/kg of $\Delta^9$ THC intravenously	IOP decrease in 9 patients with low dose and all subjects with high dose
256 glaucomatous patients	Smoking marijuana (1-4% $\Delta^9$ THC) or 5-20 mg oral $\Delta^9$ THC	Most patients showed <b>IOP reduction</b> , additive effect was seen with conventional glaucoma drugs
A 23-year-old male (suffers HPPD), 4 young subjects (control), 23 -28 years old	Smoking marijuana	HPPD in patient, no change in the controls
9 patients with end-stage open-angle glaucoma, 38-77 years old	Smoking marijuana or oral $\Delta^9$ THC capsules	<b>Lower IOP</b> , development of tolerance and significant systemic toxicity that limit the usefulness
6 patients with ocular hypertension or early primary open-angle glaucoma	Single sublingual preparation (5 mg $\Delta^9$ THC or 20 and 40 mg CBD)	Significant <b>IOP decrease</b> by $\Delta^9$ – THC, 40 mg CBD produced a transient IOP increase, no significant side effect
8 patients with glaucoma resistant to conventional treatments, 53-72 years old	Topical application of WIN55212-2	IOP decreased directly through CB1
18 patients suffering glaucoma	Single oral dose of nabilone (0.5 mg)	<b>IOP decreased</b> by 27.9%, 2-6h after administration, no visual side effect
32 patients suffering glaucoma	BW29Y (5 or 10 mg) or BWI46Y (4, 8, or 12 mg)	BW29Y: ineffective, BWI46Y: <b>IOP drop</b> , lightheaded, dizzy, disorientation, blood pressure drop

HPPD: Hallucinogen persisting perception disorder; IOP: intraocular pressure;  $\Delta^9$  THC:  $\Delta^9$  tetrahydrocannabinol; CBD: cannabidiol; WIN55212–2, Nabilone, BW29Y, BWI46Y: synthetic cannabinoids.