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This presentation contains forward-looking statements, all of which are qualified in their entirety by this cautionary statement. Many of the forward-looking statements contained herein can be identified by the use of forward-looking words such as "may", "anticipate", "believe", "could', "expect", "should", "plan", "intend", "estimate", "will", "potential" and "ongoing", among others, although not all forward-looking statements contain these identifying words. These forward-looking statements include statements about the initiation, timing, progress, results, and cost of our research and development programs and our current and future preclinical studies and clinical trials, including statements regarding the timing of initiation and completion of studies or trials and related preparatory work, the period during which the results of the trials will become available, and our research and development programs; our ability to successfully manufacture our drug substances and product candidates for preclinical use, for clinical trials and on a larger scale for commercial use, if approved; the ability and willingness of our third-party strategic collaborators to continue research and development activities relating to our development candidates and product candidates; our ability to obtain funding for our operations necessary to complete further development and commercialization of our product candidates; our ability to obtain and maintain regulatory approval of our product candidates; the size and growth potential of the markets for our product candidates, and our ability to serve those markets; our financial performance; the effect of the COVID-19 pandemic, including mitigation efforts and economic effects, on any of the foregoing or other aspects of our business operations, including but not limited to our preclinical studies and clinical trials and any future studies or trials; our ability to commercialize our products, if approved; and the implementation of our business model, and strategic plans for our busines

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This presentation discusses product candidates that are under preclinical or clinical evaluation and that have not yet been approved for marketing by the U.S. Food and Drug Administration or any other regulatory authority. Until finalized in a clinical study report, clinical trial data presented herein remain subject to adjustment as a result of clinical site audits and other review processes. No representation is made as to the safety or effectiveness of these product candidates for the use for which such product candidates are being studied.



## Novel Oncology Platform Using Virus-Like Drug Conjugates (VDCs)

Ocular Oncology Franchise

**Established Foundational Value** 

**Oncology Pipeline** 

2022 Upcoming Milestones

Seasoned Executive Team & Strong Investor Base

- Multibillion Dollar Market Opportunity
- Current standard of care is invasive with significant co-morbidities
- Completed Phase 1b/2 trial: positive data in key clinical endpoints
- FDA/EMA are in alignment with our pivotal trial design
- Solid tumor development programs
- Platform to develop additional VDCs
- Phase 2 in Choroidal Melanoma safety and efficacy data
- Initiate Pivotal Trial in Choroidal Melanoma
- Initiate Phase 1 in Non-Muscle Invasive Bladder Cancer
- IND filing in Choroidal Metastases
- Management Team with track record of drug approvals
- Strong Cash Position



## Pipeline Targeting Life-Threatening Cancers with High Unmet Needs

Program		Preclinical	Phase 1	Phase 2	Pivotal	Upcoming Milestones
	Primary Choroidal Melanoma (Ph1b/2 Intravitreal and Ph2 Suprachoroidal)					<ul> <li>2022 – Phase 2a safety and efficacy data</li> <li>2H 2022 – Initiate Phase 2b (pivotal trial)</li> </ul>
Ocular Oncology	Choroidal Metastasis (Breast, lung and other cancer metastasis in the eye)					• 2H 2022 – IND
	Other Cancers of the Ocular Surface (e.g., SCC, Melanoma)					
Other	Non-Muscle Invasive Bladder Cancer					<ul> <li>2H 2022 – Initiate Phase 1 trial</li> <li>2023 – Phase 1a data</li> </ul>
Solid Tumors	Other HSPG-Expressing Tumors (e.g., Cutaneous Melanoma, HNSCC)					

**Global Commercial Rights for All Product Candidate Indications** 



## Experienced Executive Team and Board of Directors



20+
average years
of experience



20+

Regulatory drug and device approvals

#### **Executive Team**



Ph.D.
Founder &
Chief Executive Officer





Cadmus Rich, M.D. Chief Medical Officer, Head of R&D







Julie Feder
Chief Financial Officer



GENZYME A SANOFI COMPANY



Mark De Rosch, Ph.D. Chief Operating Officer





Chris Primiano, J.D. Chief Business Officer

Karyopharm

WILMERHALE®

#### Chairman

#### **David Johnson**

VELOSBIO (CEO) (acq. Merck)



Acerta Pharma (CEO) (acq. Astra Zeneca)

Acerta Pharma
A member of the AstraZeneca Group

#### **Institutional Investors**

## MATRIX CAPITAL MANAGEMENT

Medic Xi
Advent
Life Sciences







Adage

Capital Management, L.P.

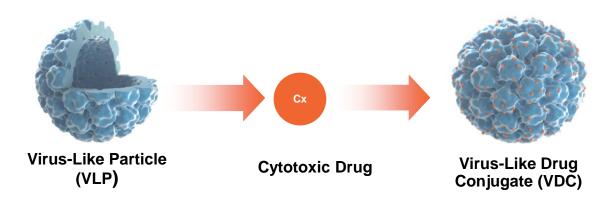
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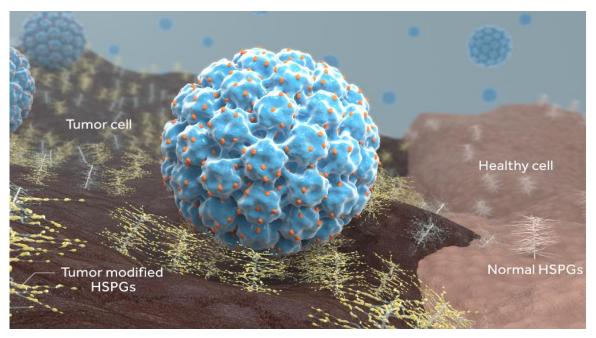


## Differentiated Platform in Drug Conjugation Market: Virus-Like Drug Conjugates (VDCs)

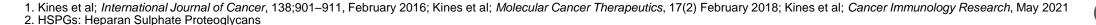
## Virus-Like Particles Covalently Bound to a Cytotoxic Payload to form the VDC



#### **VDCs can Recognize HSPGs Modified by Tumor Cells**

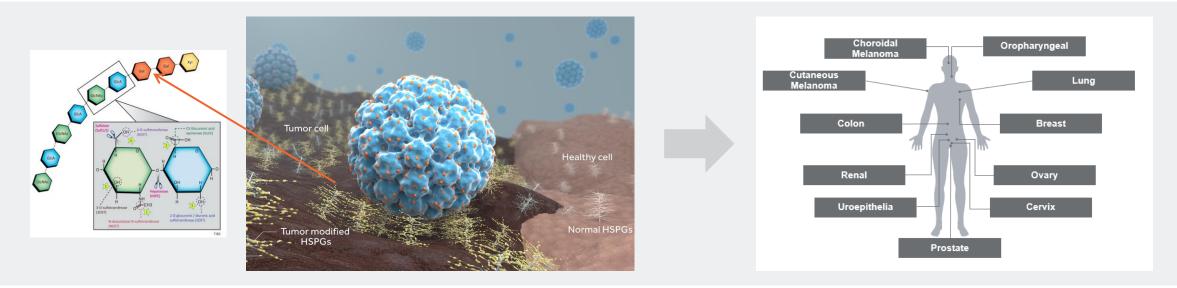


#### Potential Key Differentiation: Potency, Dual Mechanism, Binding and Selectivity





### Our Platform Has Potential to Target Tumors That Express HSPGs



- Heparan sulfate proteoglycans or HSPGs are a large family of molecules found in the extracellular matrix (ECM) and on the membranes of cells
- Tumors specifically modify HSPGs with key sulfation modifications that provide high binding specificity to a number of ligands
- Tumor modified HSPGs regulate many aspects of tumor progression, including proliferation, invasion, angiogenesis and metastases
- Our VLPs selectively bind to tumor modified HSPGs and not to normal cells

**Broad-based Tumor Targeting Mechanism by Virtue of the Binding to Tumor Specific HSPGs** 

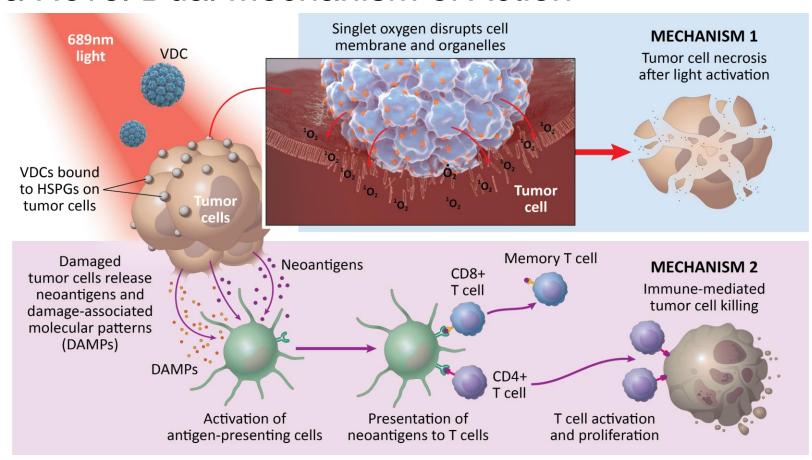


#### AU-011 Is a VDC with a Novel Dual Mechanism of Action



**AU-011** 

AU-011 is a novel VDC that consists of an HPV derived VLP conjugated to ~200 molecules of IRDye 700DX



Potential Key Differentiation: Physical Ablation May Reduce Risk to Develop Resistance and is Genetic Mutation Agnostic



## Ocular Oncology

**AU-011** 



INN: belzupacap sarotalocan

## Target Indications:

- Choroidal Melanoma
- Choroidal Metastasis
- Other Ocular Cancers

## **Ocular Oncology**



### Choroidal Melanoma is a Rare and Life-Threatening Ocular Cancer



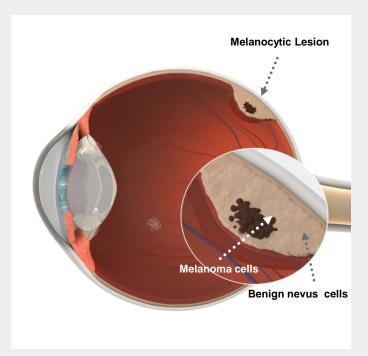
Most common primary intraocular cancer in adults



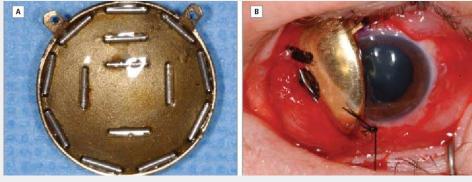
Impacts 11,000 patients in US/Europe per year



~80% patients diagnosed with early-stage disease



#### **Standard of Care is Radiotherapy or Enucleation**

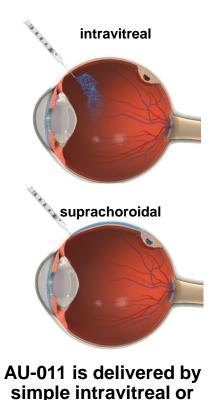


**Blindness, Eye Loss and Disfiguration** 

High Unmet Medical Need with No Drugs Approved 50% of Patients Die Despite Treatment with Radiotherapy or Enucleation



## AU-011: Aim to Develop a Vision-Preserving First Line Treatment Option



suprachoroidal injection

AU-011 is activated with an ophthalmic laser in a convenient outpatient procedure

#### **Goals of Treatment**

Local tumor control

Preservation of vision

No radioactive co-morbidities

Opportunity to treat early and reduce risk of metastases

Improvement in safety and quality of life

AU-011 Has the Potential to be the First Approved Therapy in Primary Choroidal Melanoma



### Ocular Oncology

**AU-011** 



INN: belzupacap sarotalocan

## Target Indication:

Choroidal Melanoma

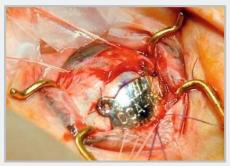
• Indeterminate Lesions and Small Tumors

## **Clinical Program**



## Current Standard of Care is Invasive with Significant Co-Morbidities

Standard of Care is Radiotherapy or Enucleation









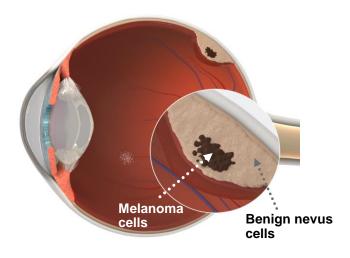


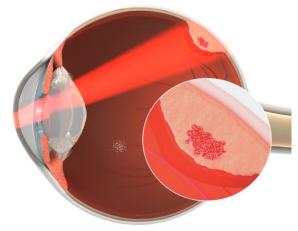


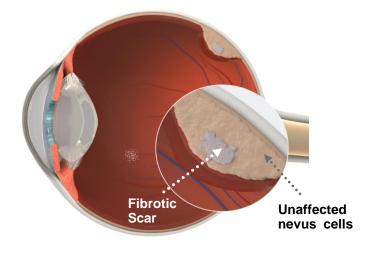
Standard of Care Often Results in Irreversible Vision Loss Does Not Reduce Rate of Developing Metastasis



## AU-011's Goal is to Eliminate Malignant Cells in the Choroid and Preserve Vision







#### **Baseline Measurement**

Many early-stage melanomas have a small component of melanoma cells within a benign nevus

**Treatment** 

AU-011 targets only the malignant cells and not the benign nevus, retina or other ocular structures

#### **Post-Treatment Measurement**

(Unchanged Tumor Height)

Malignant cells are replaced by fibrosis so there is a minimal reduction in size of the overall lesion after treatment

**Response to Treatment Evaluated by Local Tumor Control** 



### Study Design and Clinical Endpoints in Phase 1b/2 IVT Trial

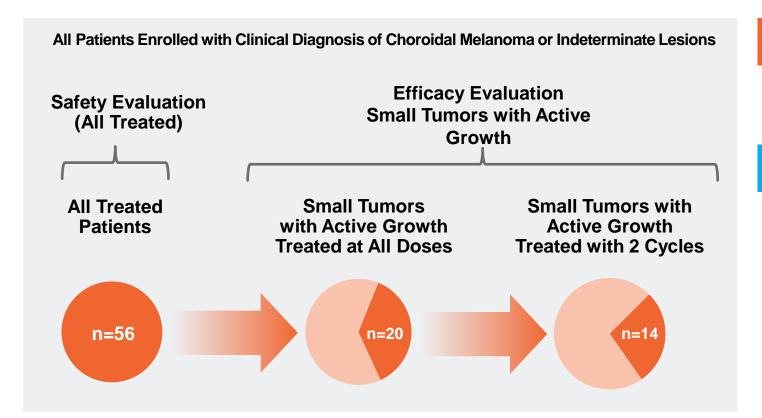
- Dose escalation and expansion study with up to two cycles of therapy
- Evaluated safety and efficacy over 12 months
- Additional follow up in registry trial for 4 years to evaluate vision, tumor control and onset of metastases

<b>Endpoint Definition</b>	Threshold	Methodology	
Tumor Thickness Growth Rate Tumor Thickness Growth over 12		Ultrasound	
Tumor Progression	Growth in Tumor Height >0.5mm and >1.0 mm in Largest Basal Diameter*	Ultrasound and Digital Photography	
Visual Acuity Loss	Long Term Loss >15 letters	ETDRS-BCVA	

**Key Endpoints Aligned with Ocular Oncology Clinical Practice and FDA** 



### Phase 1b/2 – Key Patient Populations and Objectives



#### **Primary Objective: Safety**

 Drug or treatment related adverse events (AEs) / serious adverse events (SAEs)

#### **Secondary Objective: Efficacy**

- Tumor thickness growth rate before and after treatment
- Local tumor control
- Visual acuity preservation

Enrichment Strategy to Enroll Subjects with Actively Growing Tumors Provides Important Insight into How AU-011 May Perform in Pivotal Trial



### Phase 1b/2 – Demonstrated Favorable Safety Profile

Majority of AEs Were Transient and Resolved Without Clinical Sequelae

AU-011 Treatment Related AEs ≥15% Subjects (n=56) Final	Grade I/II	Grade III
Vitreous Inflammation	83.9%	7.1%
Anterior Chamber Inflammation	67.9%	3.6%
Increase in Intraocular Pressure	46.4%	0
Pigmentary Changes/Peritumoral	37.5%	0
Keratic Precipitates	23.2%	0
Floaters/Vitreous Opacity	19.7%	1.8%
Decreased visual acuity	19.6%	1.8%

Treatment Related SAEs (n=56)	
Vision Loss (juxtafoveal tumor, n=2)	3.6%

SAE of vision loss in two subjects with tumors close to fovea due to pigmentary changes at the edge of the tumor SAEs are listed separately in the SAE table Completed Ph 1b/2 IVT trial (AU-011-101)

Adverse Event	Radiotherapy*	AU-011
Surgeries secondary to AEs (e.g., Cataracts)	40%+	~13%
Radiation Retinopathy	40%+	0%
Neovascular Glaucoma	10%	0%
Dry Eye Syndrome	20%	~2%
Strabismus	2%+	0%
Retinal Detachment	1-2%	~2%
Vision Loss (≥15 letters)	~70%	~21%

Serious Adverse Event	Radiotherapy*	AU-011
Scleral Necrosis	0-5%	0%
Enucleation/Eye Loss	10-15%	0%
Vision Loss in High-Risk Subjects** (≥30 letters)	~90%	4.6%+

Cross-trial comparison of AU-011-101 and Radiotherapy +77% (43/56) of patients in Ph1b/2 IVT trial were at high risk for vision loss; 2/43= 4.6%

#### Safety Profile Supports Indication as a First Line Treatment in Early-Stage Disease



<sup>\*</sup>J. Contemp Brachytherapy. J. 2019 Aug; 11(4): 392–397.; Arch Ophthalmol. 2000;118(9):1219-1228; Curr. Opin. Ophthalmol. 2019 May;30(3):206-214; Eye 2017 Feb;31(2):241-257

<sup>\*\*</sup>High-Risk Subjects are those with tumors <3mm to fovea or optic nerve

## Phase 1b/2 – Visual Acuity was Preserved in Majority of Patients

## Vision Preservation Rates Follow up 12 months

Populations	Total Patients (n)	Vision Preservation Rate Failure: Long term loss ≥15 letters
All Dose Cohorts		
All Treated Patients	56	86% (48/56)
Small Tumors/Active Growth	20	80% (16/20)
Small Tumors/Active Growth - High Risk for Vision Loss	17	76% (13/17)
Therapeutic Regimen (2 cycles)		
Small Tumors/Active Growth	14	71% (10/14)

 Vision was preserved in patients with tumors near the fovea or optic nerve that had a high risk for vision loss

Completed Ph1b/2 IVT trial (AU-011-101)

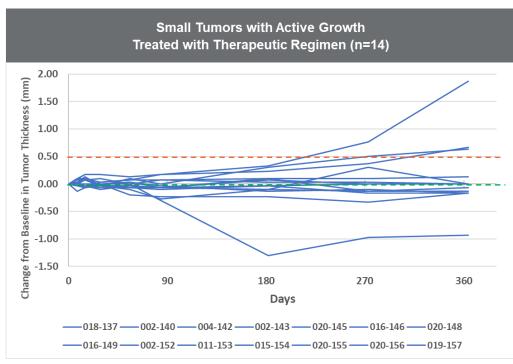
Vision was Preserved in a Majority of Patients
Where Radiotherapy Can Lead to Irreversible and Long-Term Severe Vision Loss



Vision loss was transient but recovered in most patients after inflammation or transient AEs resolved

<sup>1</sup> patient had loss ≥15 letters at Week 52 visit which recovered within 15 letters at the next visit which was ~3 weeks after standard of care (SOC); all other post-SOC data excluded for all subjects

#### Phase 1b/2 – Tumor Control Achieved in Most Patients



#### Change from Baseline in Tumor Thickness Over 12 Months

Progression Definition Tumor Height Increase >0.5mm Completed Ph1b/2 IVT trial (AU-011-101)

Tumor	Control	Rates 1	2 months

Populations	Total Patients (n)	Tumor Control Rate (at 12 months)
All Dose Cohorts		
All Treated Patients	56	54% (30/56)
Small Tumors with Active Growth	20	60% (12/20)
Therapeutic Regimen (2 Cycles)		
Small Tumors with Active Growth	14	64% (9/14)

Post-SOC data excluded

Tumor control failure (progression): Growth from baseline in Tumor Height >0.5mm or LBD >1.0mm due to definitive Tumor Growth (ie, not judged by the Investigator to be due to inflammation/swelling, hemorrhage or pigmentary changes) and not treated with standard of care

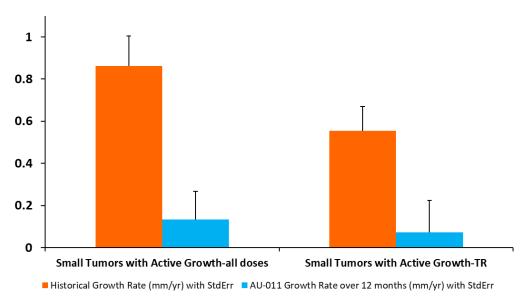
We Believe Results Support that AU-011 Could be Used First Line, Avoiding the Need for Radiotherapy in Many Patients

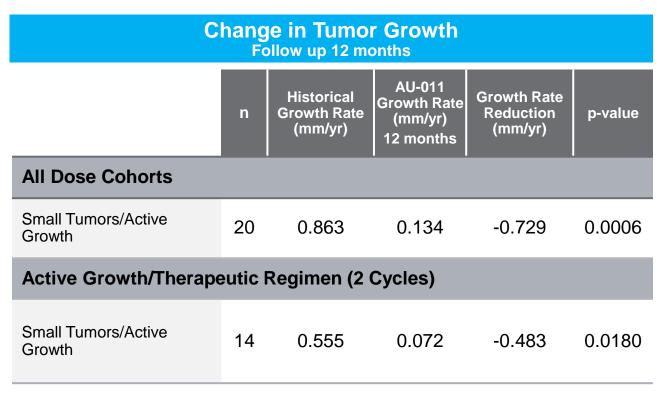


### Phase 1b/2 – Statistically Significant Growth Rate Reduction

#### **Change in Tumor Growth (mm/yr)**

#### Change in Tumor Growth Rate Over 12 months (mm/yr)





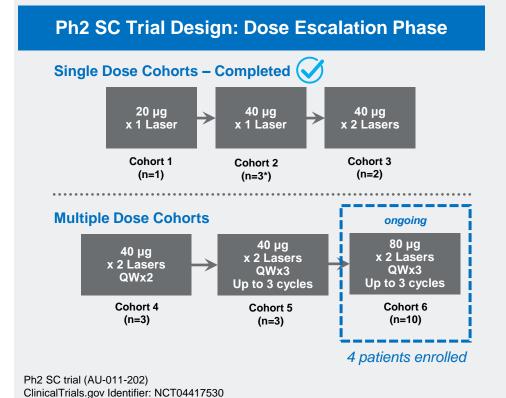
Tumor thickness growth rates/ slopes estimated using MMRM

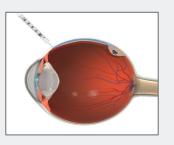
Completed Ph1b/2 IVT trial (AU-011-101)

Reduction in Tumor Growth Rate is Statistically Significant Supports Planned Pivotal Primary Endpoint



### Phase 2 Suprachoroidal Study Update





All Treated Subjects (n=16) Drug/Laser Related Adverse Events ≥10% Subjects	Grade I	Grade II	Grade III	Total
Anterior Chamber Cell/ Inflammation (n=3)	25.0%	0	0	25.0%
Eye Pain (n=2)	6.3%	6.3%	0	12.5%
Punctate Keratitis (n=2)	12.5%	0	0	12.5%

Subjects with more than 1 AE are counted in the highest severity group

Table presents percentage of subjects with AEs related to AU-011 or laser by severity and overall

Data cutoff December 30, 2021

#### **Key Safety Information**

- No drug related SAEs or dose-limiting toxicities (DLTs)
- > 5 unrelated SAEs in 2 subjects

**Opportunity to Improve the Target Product Profile** 



### Summary of Clinical Results to Date

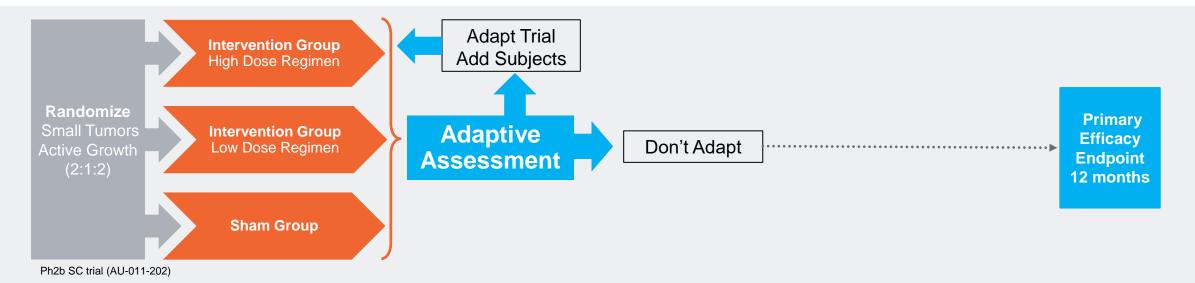
Tumor Thickness Growth Rate	Ph1b/2 IVT: Statistically significant reduction in tumor growth rates to near or below zero (p<0.02)
Tumor Control	Ph1b/2 IVT: Tumor Control rate of 64% at therapeutic regimen
Visual Acuity	Ph1b/2 IVT: Visual acuity preservation rate of 71-86% even in subjects with tumors close to fovea or optic disk
Durability of Response	Registry: All subjects in registry treated only with AU-011 have stable vision and no local progression of disease (up to two years follow up)
Route of Administration	Ph1b/2 IVT: Positive data allow the start of the pivotal study Ph2 SC: Demonstrated Initial Safety and Tolerability of SC Administration (Study ongoing)

Positive Data in Key Clinical Endpoints Supports Moving into Pivotal Trial



### Pivotal Trial Design in Alignment with FDA and EMA

Fast Track and Orphan Designations Enable Frequent Interactions with Ophthalmology Division of the FDA



#### **Primary Endpoint**

- Tumor Growth Rate at 12 months:
  - Analysis will compare the growth rates between Intervention Group (High Dose) and Sham Group

#### **Key Secondary Endpoint**

- Composite time to event analysis at 12 months:
  - Disease progression <u>or</u> visual acuity failure between Intervention Group (High Dose) and Sham Group

We Believe Adaptive Design Optimizes Probability of Success in Pivotal Trial



### Ocular Oncology

**AU-011** 



INN: belzupacap sarotalocan

## Target Indications:

Choroidal Melanoma

- Indeterminate Lesions and Small Tumors
- Medium Tumors

Choroidal Metastasis Other Ocular Cancers

## Ocular Oncology Commercial Overview



### Attractive Commercial Opportunity in Ocular Oncology



New Choroidal Melanoma Patients are diagnosed each year (US/EU5)



of patients are diagnosed at the early stage (indeterminate lesions (ILs) and small tumors)





**Current Treatment w/ Radiotherapy** 

Leaves ~70% of patients with major irreversible vision loss within 5-10 years



~100 Ocular Oncologists in US/EU Focused call point

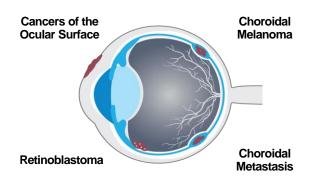




< 20 Field Based Team

Intend to add small sales force to launch globally

Ocular Oncology **Franchise** 







**Multibillion Dollar Market Opportunity** 



## Urologic Oncology

**AU-011** 



INN: belzupacap sarotalocan

## Target Indication:

 Non-Muscle Invasive Bladder Cancer (NMIBC)

# Non-Muscle Invasive Bladder Cancer



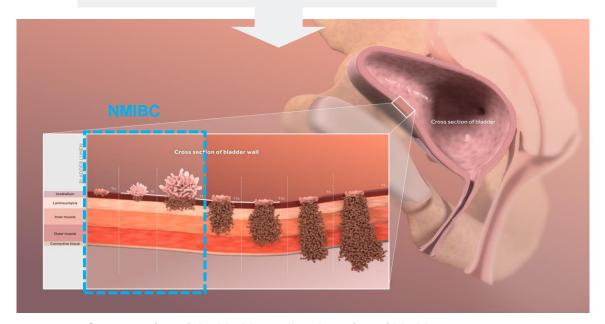
## NMIBC is a High Unmet Need With No Approved Targeted Therapies

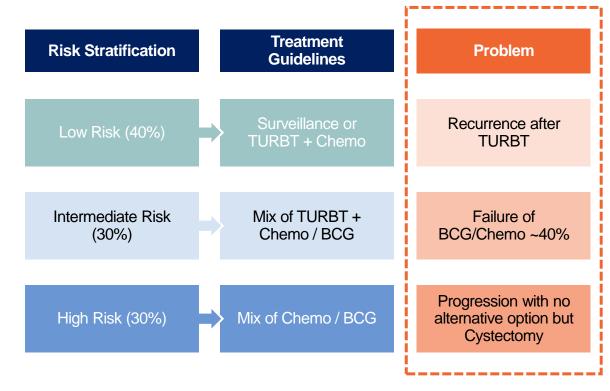


422,000 new cases/year globally



61,300 new cases/year in the US



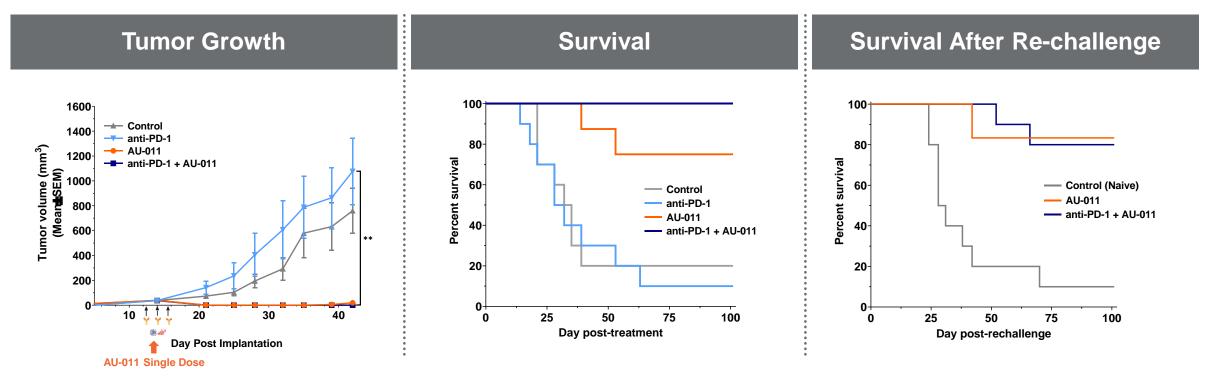


Cross section of the bladder wall and staging of bladder cancer

AU-011 Mechanism of Action Supports Opportunity as Front-Line Treatment Following Initial Diagnosis and/or BCG Refractory Disease



## Pre-clinical Activity Supports Initiation of Clinical Trials in NMIBC



Treatment of Tumor Caused Anti-Tumor Immune Response and Prevented Tumor Growth After Re-Challenge

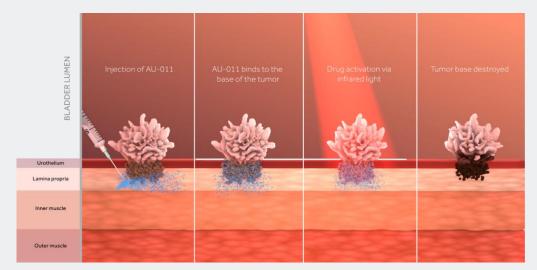
Syngeneic Mouse Tumor Bladder Model (MB49 Model in C57BL/6 Mice) (N=8 -10/group)

Data Demonstrates Robust Efficacy Supporting Development as Single Agent and in Combination with Checkpoint Inhibitors

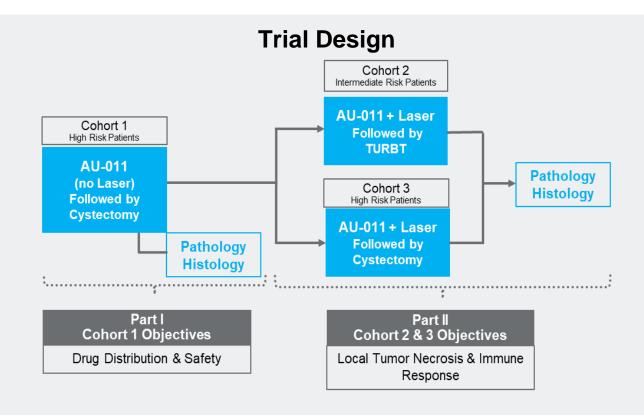


## Phase 1a Trial to Evaluate Safety & Early Proof of Mechanism in NMIBC

#### **Intra-mural Administration**



AU-011 will be administered in the lamina propria close to the base of the tumor



Clinical Trial will Explore Local Necrosis and Evidence of Immune Activation



### **Drug Portfolio**

## **AU-011 Target Indications:**

- Choroidal Melanoma
- Choroidal Metastases
- NMIBC

## **Strategy and Key Milestones**



## Novel Oncology Platform Using Virus-Like Drug Conjugates (VDCs)

Ocular Oncology Franchise

**Established Foundational Value** 

**Oncology Pipeline** 

2022 Upcoming Milestones

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