A Phase 1b/2 Trial of AU-011, an Investigational, Virus-Like Drug Conjugate (VDC) for the Treatment of Primary Indeterminate Lesions and Small Choroidal Melanoma (IL/CM) using Intravitreal Administration

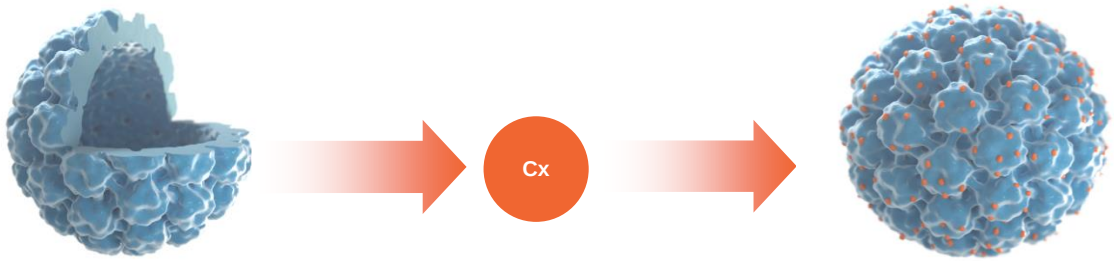
Carol Shields, MD
on behalf of the AU-011 Program
Investigator Group

Disclosures – Carol Shields, MD

- Aura Biosciences (Consultant)

Targeted Oncology Platform: Virus-Like Drug Conjugates (VDCs)

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

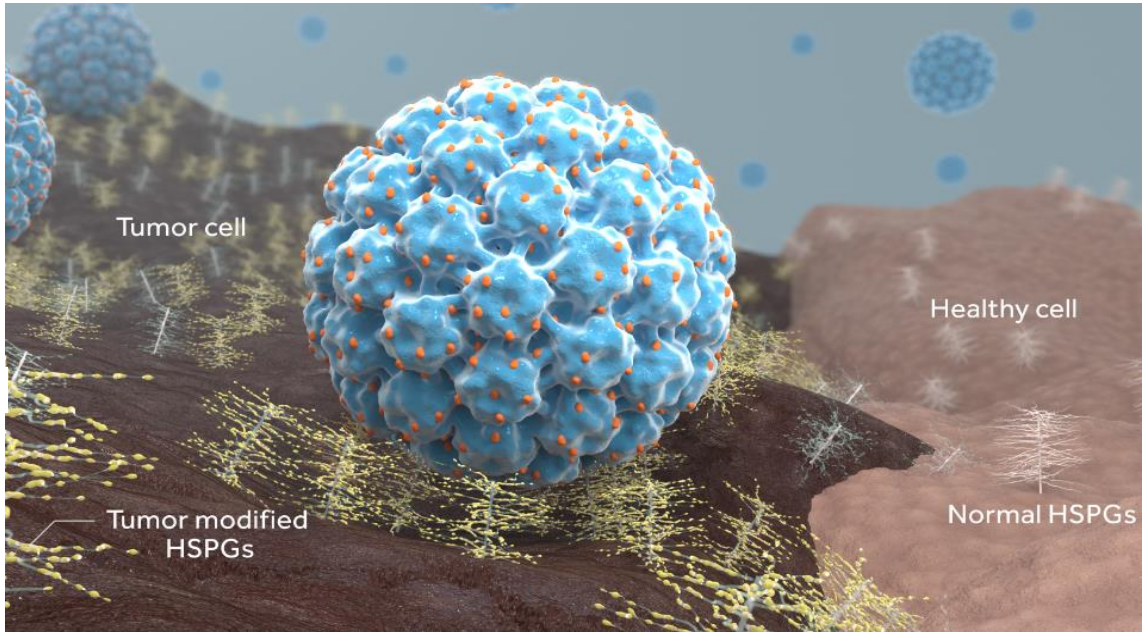


Virus-Like Particle (VLP)

Cytotoxic Drug

Virus-Like Drug Conjugate (VDC)

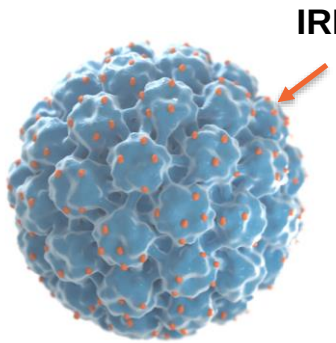
VDCs can Recognize HSPGs Modified by Tumor Cells



Technology Platform Designed to Target Broad Range of Solid Tumors based on Virus-Like Particles with Multiple Options for Cytotoxic Payloads

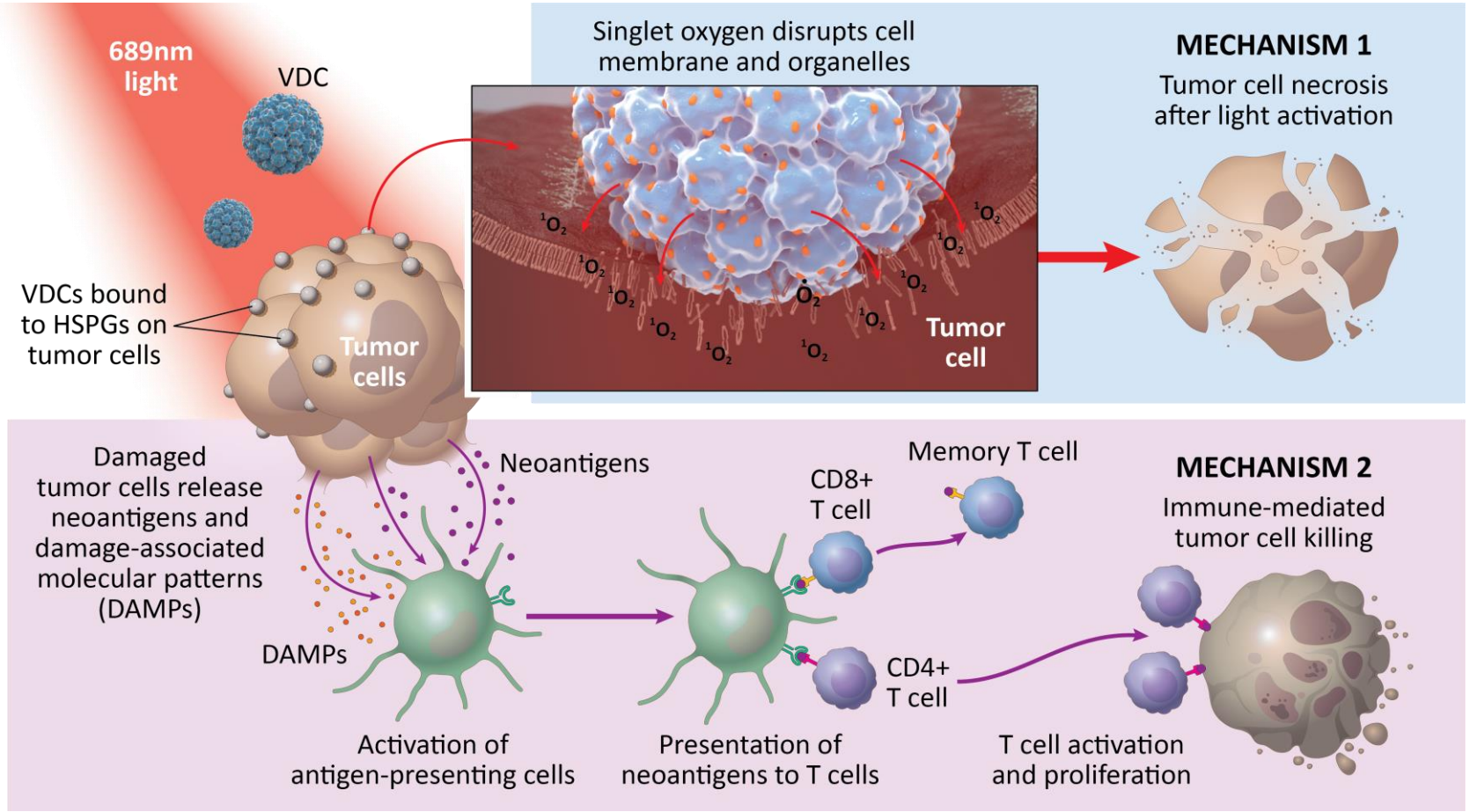
1. Kines et al; *International Journal of Cancer,*138;901–911, February 2016; Kines et al; *Molecular Cancer Therapeutics*, 17(2) February 2018; Kines et al; *Cancer Immunology Research,* May 2021
2. HSPGs: Heparan Sulphate Proteoglycans

AU-011 is a VDC with a Novel Dual Mechanism of Action



AU-011

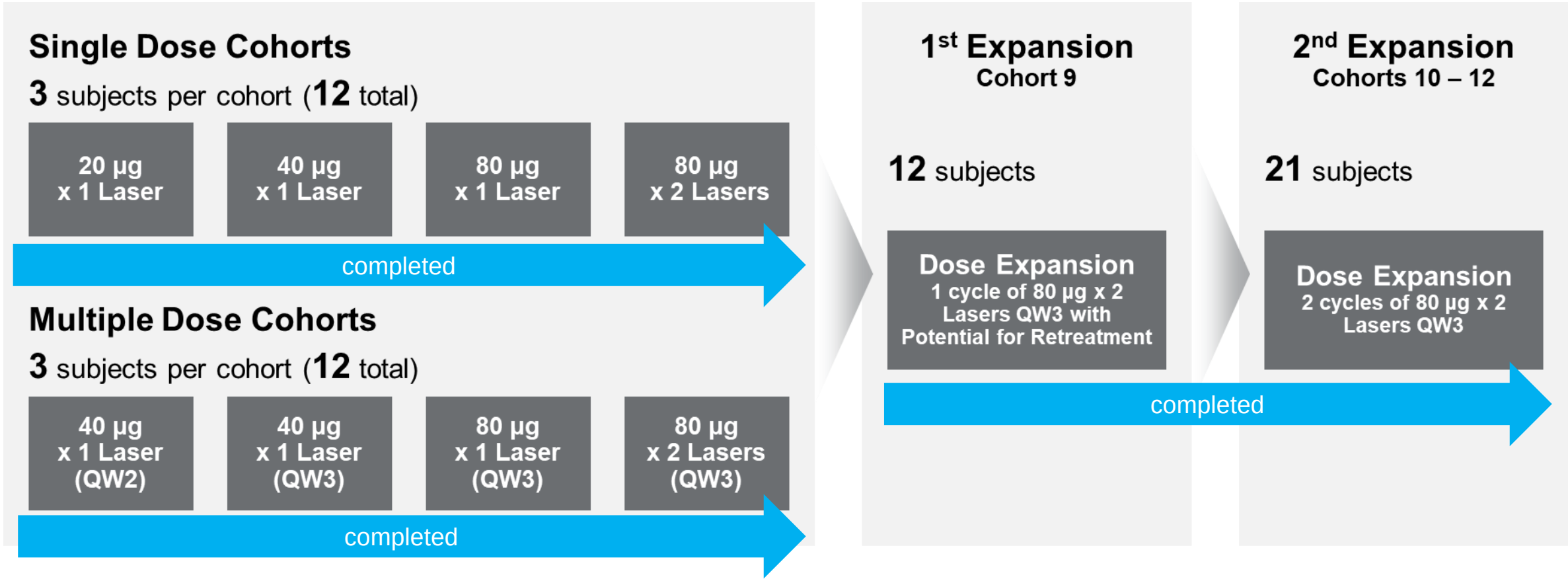
AU-011 is a novel VDC that consists of an HPV derived VLP conjugated to ~200 molecules of IRDye 700DX



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

Kines et al; *Cancer Immunology Research,* May 2021

Phase 1b/2 IVT – Study Design

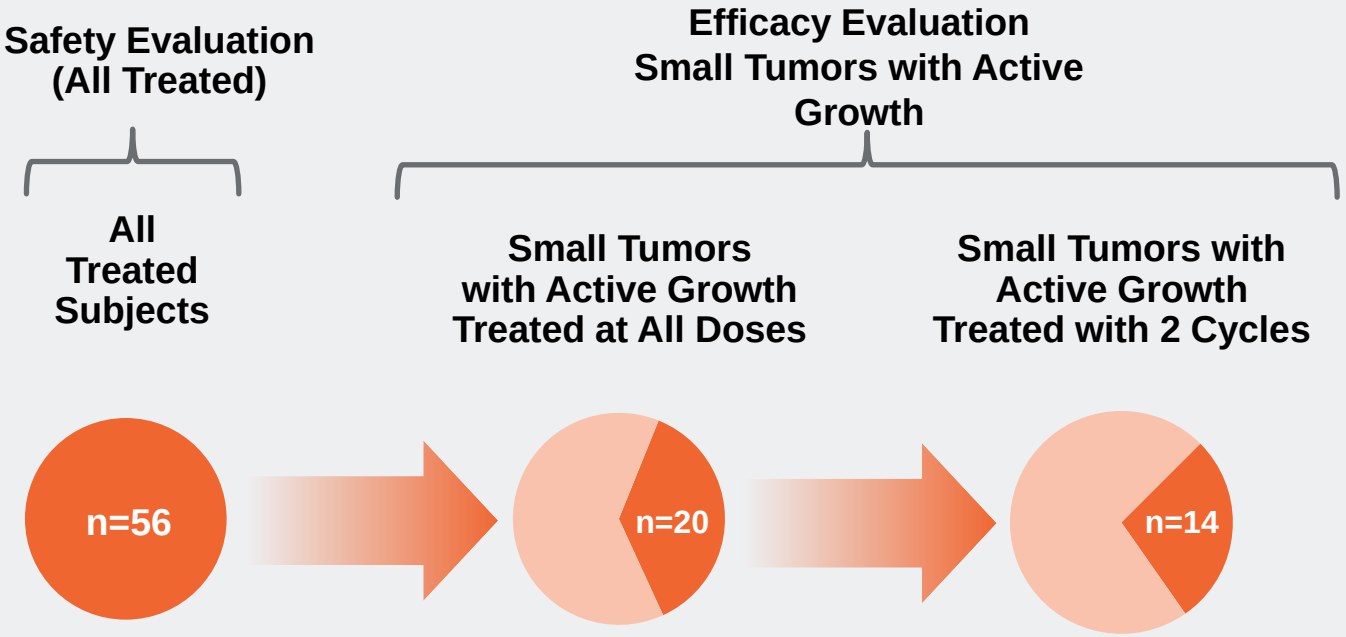


56 Subjects Treated[#] – Subjects Completed Trial in January 2021

All enrolled subjects with clinical diagnosis of choroidal melanoma
8 sites completed 1st Expansion; 6 more sites added for 2nd Expansion – 14 sites total
[#] 56/57 enrolled subjects treated with AU-011; 1 subject in observation cohort exited without treatment due to no tumor growth

Phase 1b/2 – Key Patient Populations and Objectives

All Subjects Enrolled with Clinical Diagnosis of ILs or Choroidal Melanoma



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

All Subjects Evaluated for Safety and Efficacy
Subjects with Small Tumors and Active Growth Evaluated for Efficacy

Safety: AU-011 is Well Tolerated

Majority of Adverse Events (AEs) are transient and managed with standard of care treatment

All Treated Subjects (n=56) Key Treatment Related Adverse Events (≥10% Subjects)	Grade I	Grade II	Grade III	Total
Vitreous Inflammation	25.0%	58.9%*	7.1%	91.0%
Anterior Chamber Inflammation	37.5%	30.4%	3.6%	71.5%
Increase in Intraocular Pressure	21.4%	25.0%	0	46.4%
Peritumoral RPE/ Pigmentary Changes	32.1%	5.4%	0	37.5%
Keratic Precipitates	21.4%	1.8%	0	23.2%
Floaters/ Vitreous Opacity	16.1%	3.6%	1.8%*	21.4%
Decreased Visual Acuity/ Vision Loss	7.1%	12.5%	1.8%^	21.4%
Eye Pain/ Soreness	8.9%	5.4%	0	14.3%
Corneal Abrasion/ Epithelial Defect	1.8%	8.9%	0	10.7%
Corneal Edema	10.7%	0	0	10.7%
Treatment Related Serious Adverse Events (n=56)				
Vision Loss (juxtafoveal tumor)			3.6%	3.6%

Table presents percentage of subjects with AEs related to AU-011 or laser by severity and overall; subjects with more than 1 AE are counted in the highest severity group
Anterior inflammation, keratic precipitates treated with topical steroid drops; vitreous inflammation treated with topical, oral or peri- or intraocular steroids; IOP treated with topical anti-hypertensives
*2 subjects treated with vitrectomy – 1 with vitreous opacity and another with persistent vitreous inflammation
^SAEs are listed separately

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

Vision Preservation Rates
Follow up 12 months

Populations	Total Patients (n)	Vision Preservation Rate (12 months) Failure: Long term loss ≥15 letters
All Dose Cohorts		
All Treated Subjects	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)*

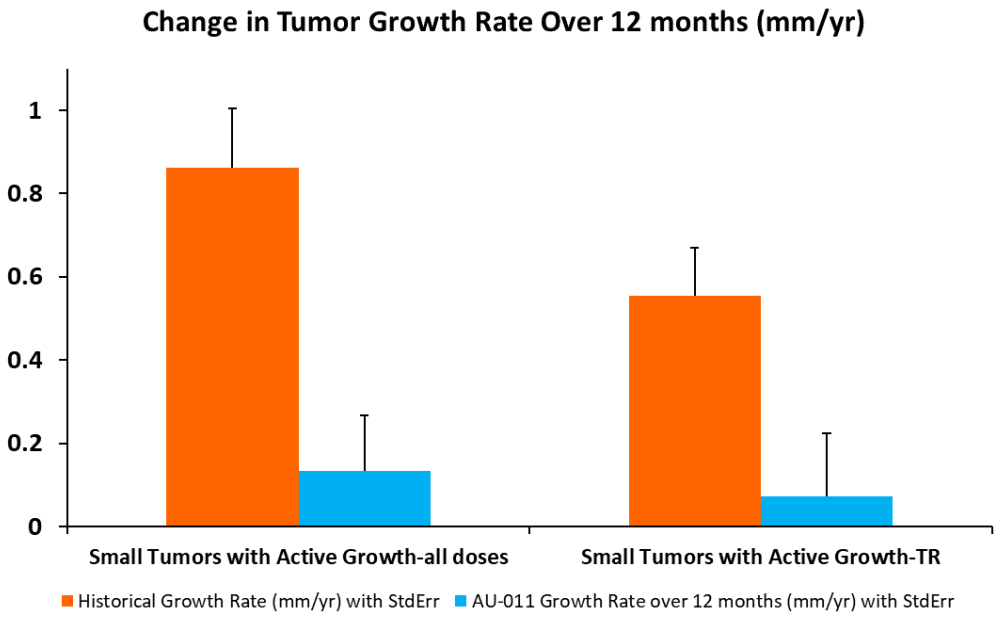
*1 subject had loss ≥15 letters at Week 52 visit which recovered within 15 letters at the next visit which was ~3 weeks after standard of care (SOC); all other post-SOC data excluded for all subjects

- Vision loss was transient but recovered in most subjects after inflammation or transient AEs resolved
- Vision was preserved in majority of subjects with tumors near the fovea or optic nerve that had a high risk for vision loss

Vision Loss was Transient but Recovered in Most Patients after AE Resolution
Vision was Preserved in a Majority of Patients

Phase 1b/2 – Statistically Significant Growth Rate Reduction

Change in Tumor Growth (mm/yr)



Change in Tumor Growth
Follow up 12 months

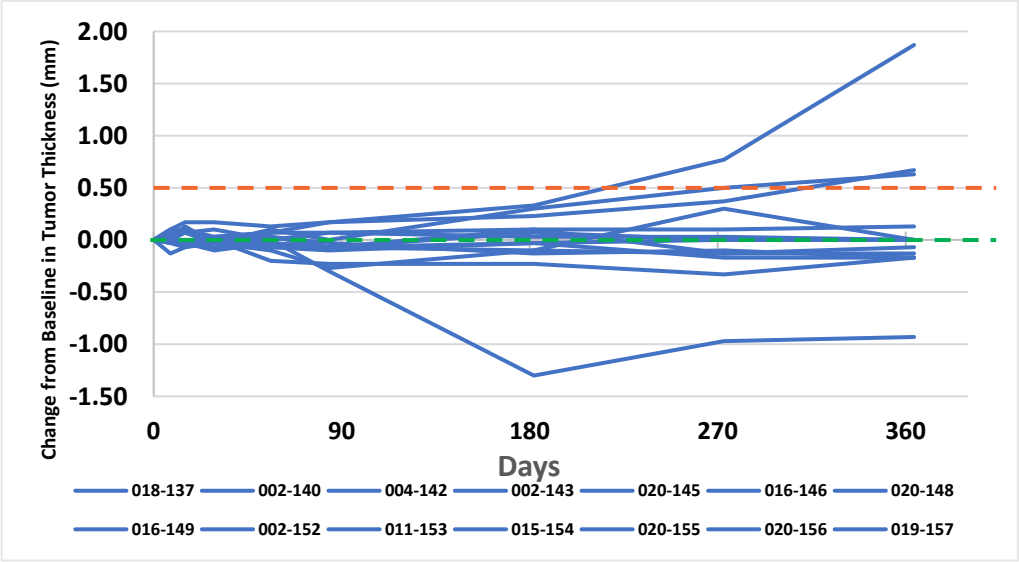
	n	Historical Growth Rate (mm/yr)	AU-011 Growth Rate (mm/yr) 12 months	Growth Rate Reduction (mm/yr)	p-value
All Dose Cohorts					
Small Tumors with Active Growth	20	0.863	0.134	-0.729	0.0006
Therapeutic Regimen (2 Cycles)					
Small Tumors with Active Growth	14	0.555	0.072	-0.483	0.0180

Tumor thickness growth rates/ slopes estimated using MMRM

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

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

Small Tumors Active Growth
Treated with Therapeutic Regimen (n=14)



Change from Baseline in Tumor Thickness Over 12 Months

Progression Definition Tumor Height Increase >0.5mm

Tumor Control Rates 12 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

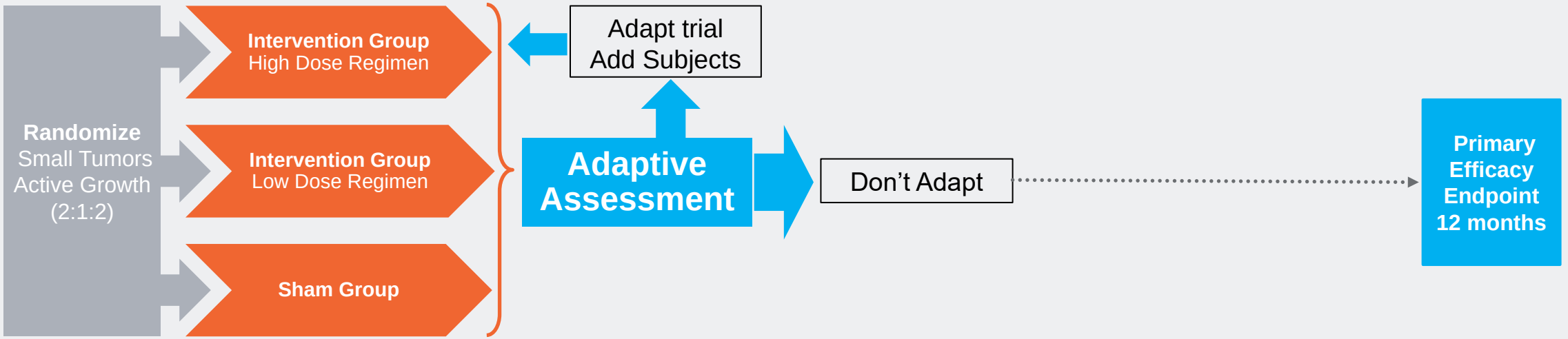
Results Support the Potential Use of AU-011 as First Line Treatment for Choroidal Melanoma

Summary of Ph1b/2 IVT 12 Month Clinical Results

Safety	AU-011 was well tolerated with the majority of AEs transient and managed with the standard of care.
Visual Acuity	Visual acuity preservation rate of 71-86% even in subjects with tumors close to the fovea or optic disk
Tumor Control	Tumor Control rate of 64% in subjects treated with the therapeutic regimen
Tumor Thickness Growth Rate	Statistically significant reduction in tumor growth rates with many subjects near or below zero ($p<0.02$)
Durability of Response	All subjects in follow up Registry Trial treated only with AU-011 have stable vision and no local progression of disease (up to over 2 years follow up)
Route of Administration	Ph 1b/2 IVT: Positive data allows the start of the pivotal trial Ph 2 SC: Demonstrated initial safety and tolerability of SC Administration Study ongoing

Pivotal Trial Design in Alignment with FDA and EMA

Fast Track and Orphan Designations



Ph2b SC trial (AU-011-202)

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 or visual acuity failure between Intervention Group (High Dose) and Sham Group

Adaptive Design Optimizes Probability of Success to Potentially Advance AU-011 in a Rare Disease with a High Unmet Medical Need

AU-011 Program Investigator Group

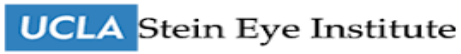
Dr. Carol Shields
Philadelphia, PA

Dr. Ivana Kim
Boston, MA

Columbia University Medical Center
Dr. Brian Marr
New York, NY

Dr. Hakan Demirci
Ann Arbor, MI

Dr. Amy Schefler
Houston, TX



Dr. Tara McCannel Los Angeles, CA

Dr. Antonio Capone Jr. Royal Oak, MI

Dr. Abdhish Bhavsar
Minneapolis, MN

Dr. Chris Bergstrom
Greenville, SC

Dr. Tony Tsai
Sacramento, CA

Dr. Cameron Javid
Tucson, AZ

Dr. James Howard
Salt Lake City, UT

Peter Hovland
Denver, CO

Dr. Prithvi Mruthyunjaya
Palo Alto, CA

Dr. Timothy Fuller
Dallas, TX

Dr. David Reichstein
Nashville, TN

Dr. Michael Seider
San Francisco, CA