March 2026

Innovating the future of cancer care to cure patients and preserve organ function

aura

Legal disclosure

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 nonclinical, 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 efficiently develop our existing product candidates and discover new product candidates; 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 commercialize our products, if approved; 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; statements regarding our beliefs and expectations for the high unmet medical need for an effective local treatment in ocular and urologic oncology to preserve organ function; the size and growth potential of the markets for our product candidates and our ability to serve those markets; our financial performance; our expected cash runway into the first quarter of 2027; and the implementation of our business model, including strategic plans for our business and product candidates.

Except as otherwise noted, these forward-looking statements speak only as of the date of this presentation, and we undertake no obligation to update or revise any of such statements to reflect events or circumstances occurring after this presentation. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. For a discussion of these and other risks and uncertainties, and other important factors, any of which could cause our actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in our most recent Annual Report on Form 10-K and Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission (SEC), as well as discussions of potential risks, uncertainties, and other important factors in our other subsequent filings with the SEC, which are available on the SEC's website at www.sec.gov. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. We caution you not to place undue reliance on the forward-looking statements contained in this presentation.

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 (FDA) 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.

This presentation shall not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of these securities in any state or other jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or other jurisdiction.

Transforming early cancer treatment through disruptive innovation

Novel class of drugs: virus-like drug conjugates

VDCs have the potential to transform early cancer treatment

Novel MoA: direct tumor cell killing and immune cell activation

Positive clinical data in multiple indications

Positive phase 2 data in early choroidal melanoma with phase 3 ongoing under FDA SPA agreement

Multiple clinical complete responses with single low dose in phase 1 trial in NMIBC

Large market opportunity in areas of unmet need

Ocular oncology
~66,000 patients/yr (US/EU)[1–7]

Urologic oncology
~500,000 patients/yr (globally)[8]

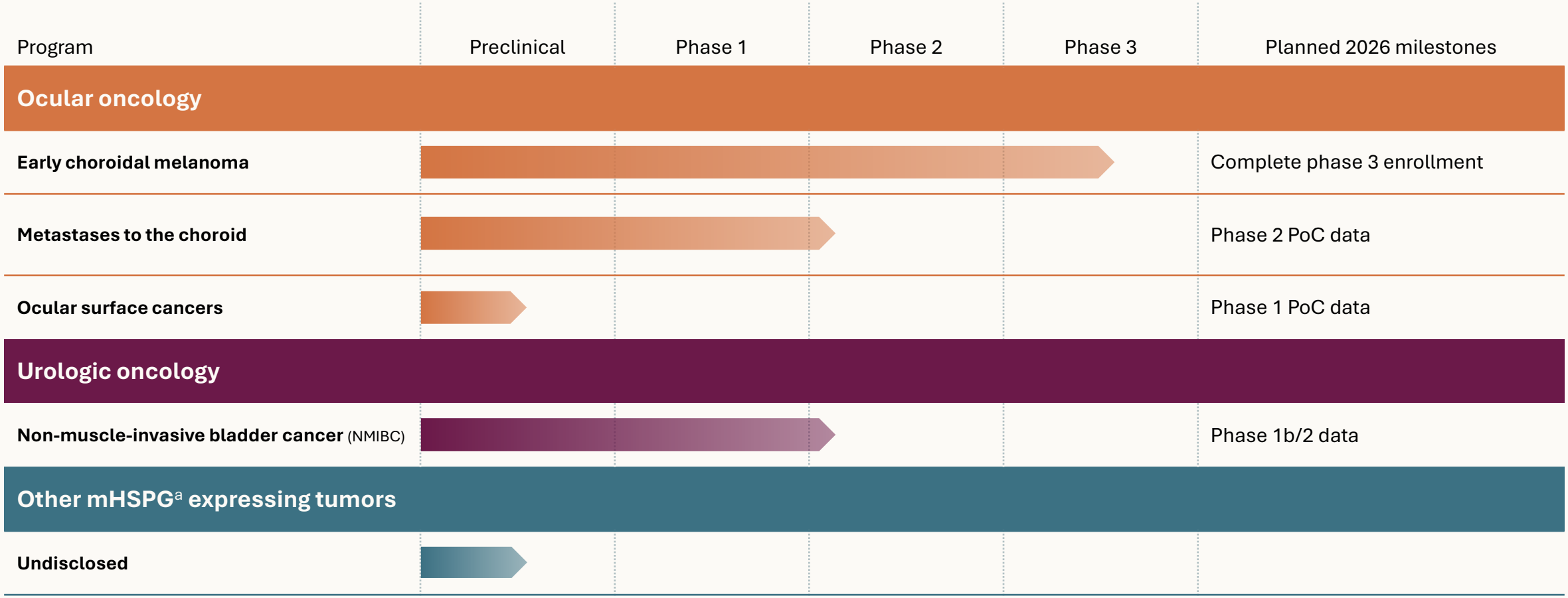
Key upcoming milestones

Complete enrollment in the phase 3 trial in early choroidal melanoma and phase 1b/2 trial in NMIBC

Current cash expected to fund operations into Q1 2027

1. Yu G-P et al. *Am J Ophthalmol.* 2003;135(6):800-6. **2.** Triay E et al. *Br J Ophthalmol.* 2009;93(11):1524-8. **3.** Newton R et al. *Lancet.* 1996;347(9013):1450-1. **4.** Dalvin LA. *Br J Ophthalmol.* 2018;102(12):1728-1734. **5.** Sun EC et al. *Cancer Epidemiol Biomarkers Prev.* 1997;6(2):73-7. **6.** Epidemiology analysis for choroidal melanoma and choroidal metastasis by ClearView Healthcare Partners and Putnam. **7.** American Cancer Society. Key statistics for retinoblastoma. Available at: https://www.cancer.org/cancer/types/retinoblastoma/about/key-statistics.html. Accessed Sept 5, 2024. **8.** Bladder cancer. Putnam & Assoc. Epidemiology Analysis.
Early choroidal melanoma, small choroidal melanoma or indeterminate lesions; **FDA**, United States Food and Drug Administration; **SPA**, special protocol assessment; **VDC,** virus-like drug conjugate, **MoA,** mechanism of action; **NMIBC,** non-muscle-invasive bladder cancer.

Clinical pipeline across multiple solid tumor indications



[a] Virus-like drug conjugates (VDCs) bind to a subset of modified tumor associated glycosaminoglycans (GAGs) that are part of the heparan sulphate chain of heparan sulfate proteoglycans (HSPGs).[1]

1. Kines RC, and Schiller JT. *Viruses.* 2022;14(8):1656. **mHSPG**, modified heparan sulphate proteoglycan; **NMIBC,** non-muscle-invasive bladder cancer; **PoC**, proof of concept.

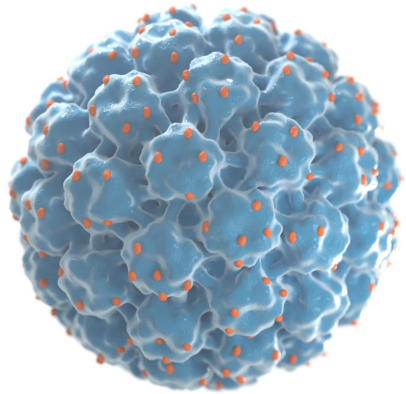
Virus-like drug conjugates have the potential to transform early cancer treatment

Unique tumor selectivity

Targets a key receptor molecule expressed in the early stages of malignant tumor transformation

Dual MoA

Targeted cytotoxicity and immune activation; potential to generate lasting anti-tumor T-cell memory



Tumor and mutation-agnostic

>100 cell lines
>15 animal tumor models

High potency

~200 cytotoxic molecules per VLP; demonstrated picomolar efficacy in multiple animal tumor models

Positive clinical data in multiple early-stage local cancers

- **Choroidal melanoma:** Positive phase 2 end of study data; phase 3 ongoing
- **NMIBC:** Positive phase 1 data; phase 1b/2 ongoing

Favorable safety profile

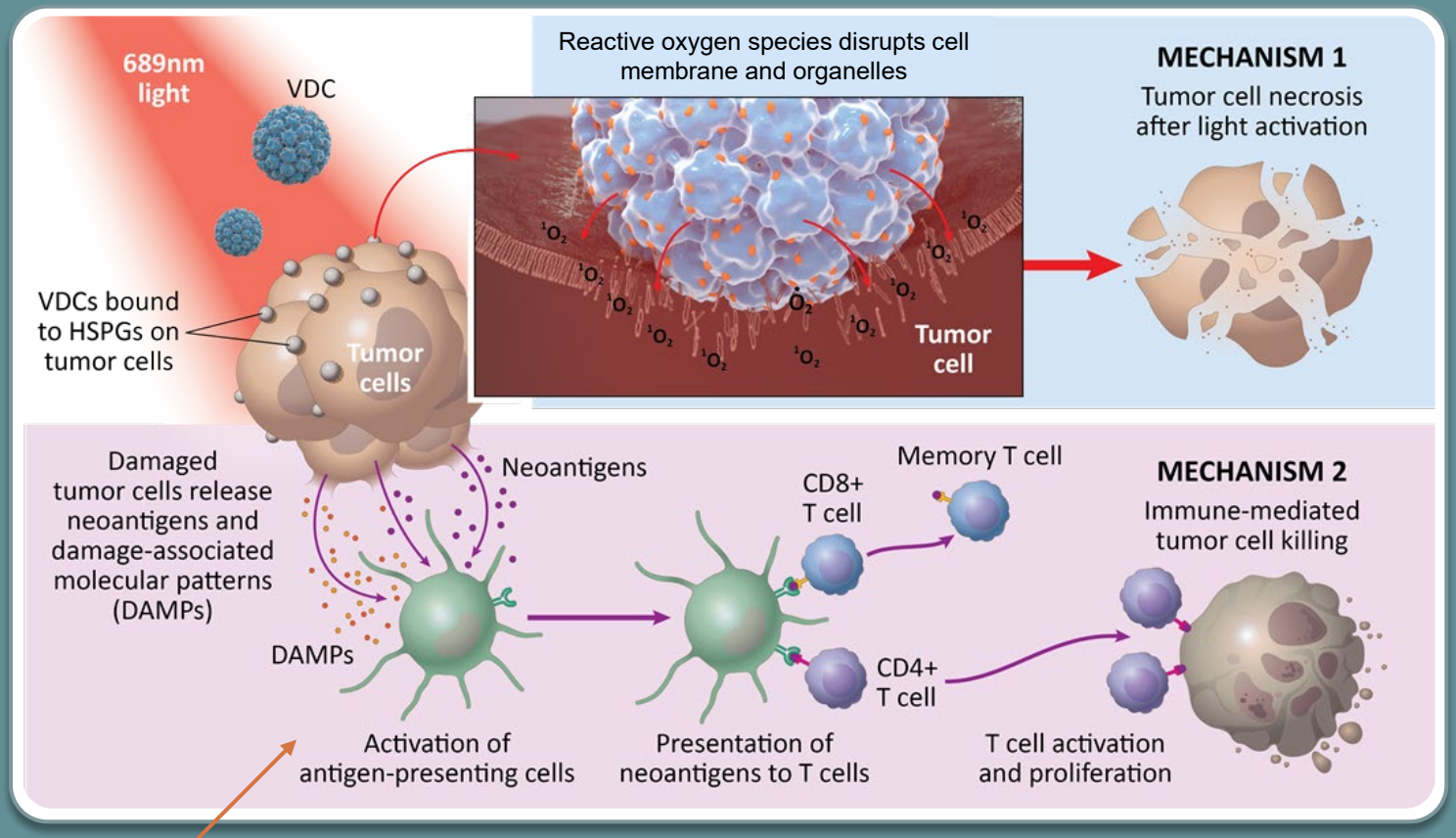
No treatment-related SAEs and no DLTs reported in phase 2 choroidal melanoma trial or phase 1 data readout in NMIBC trial

DLT, dose-limiting toxicity; **MoA**, mechanism of action; **NMIBC**, non-muscle-invasive bladder cancer; **SAE**, serious adverse event; **VLP**, virus-like particle.

Targeted cytotoxicity and long-term anti-tumor immune memory

Bel-sar has a novel dual mechanism of action

- Disruption of the tumor cell membrane and pro-immunogenic cell death by necrosis leads to T cell activation and immune-mediated tumor cell killing



Release of **DAMPs** induces **anti-tumor immunity**

Bel-sar treatment is designed to be cytopathic to resident suppressor cells, reducing the immune-suppressive microenvironment and contributing to **anti-tumor immunity**

Kines RC, et al. *Int J Cancer*. 2016;138(4):901–11. Kines RC, et al. *Mol Cancer Ther*. 2018;17(2):565–74. Kines RC, et al. *Cancer Immunol Res*. 2021;9:693–706.
Bel-sar, belzupacap sarotalocan; **DAMPs**, damage-associated molecular patterns; **HSPG**, heparan sulfate proteoglycan; **VDC**, virus-like drug conjugate. Bel-sar (AU-011) is an investigational product candidate. The effectiveness and safety of bel-sar have not been established, and bel-sar is not approved for use in any jurisdiction.

Bel-sar: a platform designed for therapeutic expansion into multiple cancers

Choroidal melanoma

Ongoing phase 3 with SPA
Based on positive phase 2 clinical data

Metastases to the choroid

Phase 2 ongoing

Cancers of the ocular surface

Pre-clinical

Retinoblastoma (pediatric)

Pre-clinical

Bladder cancer

NMIBC/MIBC

Positive phase 1 data in NMIBC

Multiple cCRs with single dose

Phase 1b/2 ongoing

Potential to expand to MIBC

Other urologic cancers

Next-generation combination strategies

CNS cancers

GI cancers

Head and neck cancer

Breast cancer

Lung cancer

Cutaneous melanoma

Other cancers

Urologic oncology

Ocular oncology - Rare oncology

CNS, central nervous system; **cCR**, clinical complete response; **GI**, gastrointestinal; **IND**, investigational new drug application; **MIBC**, muscle-invasive bladder cancer; **NMIBC**, non-muscle-invasive bladder cancer; **SPA**, special protocol assessment.

Ocular oncology

Bel-sar target indications:

Early choroidal melanoma | Metastases to the choroid | Ocular surface cancers

Bel-sar opportunities in ocular oncology represent a highly targeted multi-billion-dollar addressable market

- Bel-sar has the potential to become the new standard of care with no competition in clinical development for our patient populations

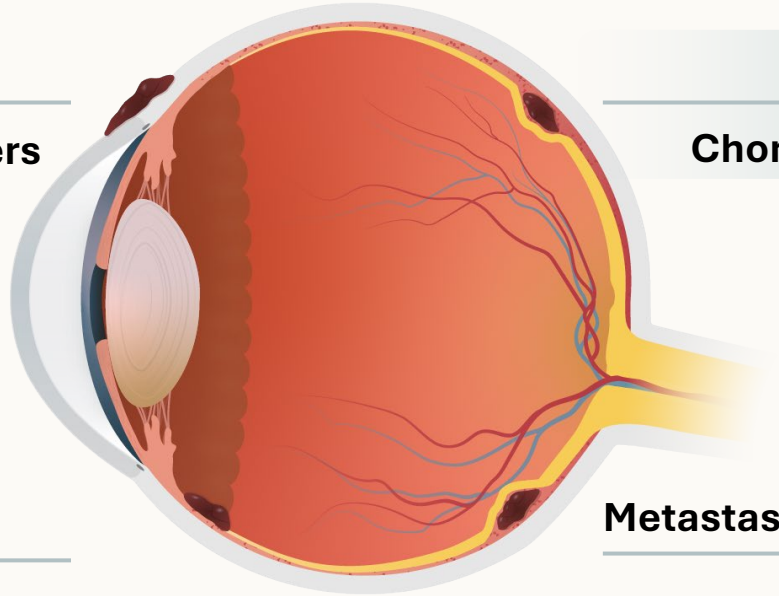
Ocular oncology: **a large unmet need** with no vision-preserving therapy

~66,000 patients/year

Ocular oncology franchise total addressable market (US/EU)

~35,000/yr[a,1–5]

Ocular surface cancers



~11,000/yr[6]

Choroidal melanoma

Retinoblastoma

~500/yr[7]

Metastases to the choroid

~20,000/yr[6]

[a] Includes conjunctival melanoma, primary acquired melanosis, squamous cell carcinoma and ocular surface squamous neoplasia.[1-5]

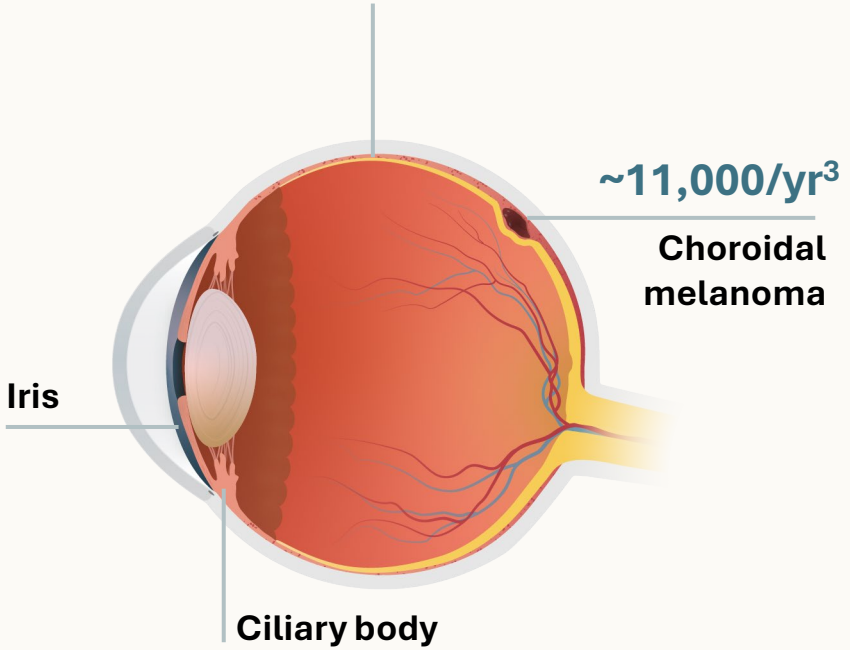
1. Yu G-P et al. *Am J Ophthalmol*. 2003;135(6):800-6. **2.** Triay E et al. *Br J Ophthalmol*. 2009;93(11):1524-8. **3.** Newton R et al. *Lancet*. 1996;347(9013):1450-1. **4.** Dalvin LA. *Br J Ophthalmol*. 2018;102(12):1728-1734. **5.** Sun EC et al. *Cancer Epidemiol Biomarkers Prev*. 1997;6(2):73-7. **6.** Epidemiology analysis for choroidal melanoma and choroidal metastasis by ClearView Healthcare Partners and Putnam. **7.** American Cancer Society. Key statistics for retinoblastoma. Available at: https://www.cancer.org/cancer/types/retinoblastoma/about/key-statistics.html. Accessed Sept 5, 2024.

Opportunity to transform early-stage treatment intervention

- The current standard-of-care is radiotherapy – treatment that frequently leads to legal blindness[4,5]

Early choroidal melanoma is a rare disease that has **no approved therapies**

Choroid is 90%
of the uvea[1]



Uvea: Choroid, ciliary body and iris

Choroidal melanoma is the most common primary intraocular cancer in adults[2,3]

~80% of patients diagnosed with **early-stage disease**[3]

50% of patients **develop metastasis** within 15 years (metastatic uveal melanoma)[2]

1. Heiting, G. Iris/uvea of the eye. Available at: https://www.allaboutvision.com/en-gb/resources/uvea-iris-choroid/. Accessed Oct. 3, 2023. **2.** Kaliki S and Shields CL. *Eye (Lond)*. 2017;31(2):241-257. **3.** Epidemiology analysis for choroidal melanoma and choroidal metastasis by ClearView Healthcare Partners and Putnam. **4.** Jarczak J, Karska-Basta I, Romanowska-Dixon B. *Medicina (Kaunas)*. 2023;59(6):1131. **5.** Tsui I, Beardsley RM, McCannel TA, Oliver SC, et al. *Open Ophthalmol J*. 2015;9:131-5.

SoC radiotherapy: high morbidity and vision-threatening outcomes

‘Watch-and-wait’ is the standard approach in early choroidal melanoma

Observation
‘Watch-and-wait’

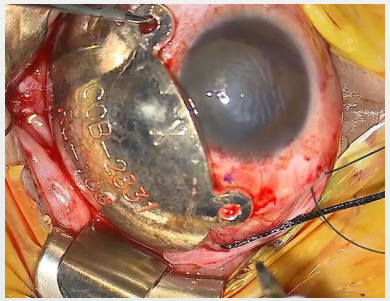
Diagnosis of early CM[a]

Treat early and risk vision loss;
Delay treatment and risk metastasis[1]

SoC radiotherapy

Regular monitoring for risk factors/growth[6]

Bel-sar has the potential to be used early, with the opportunity to preserve vision and improve patient outcomes



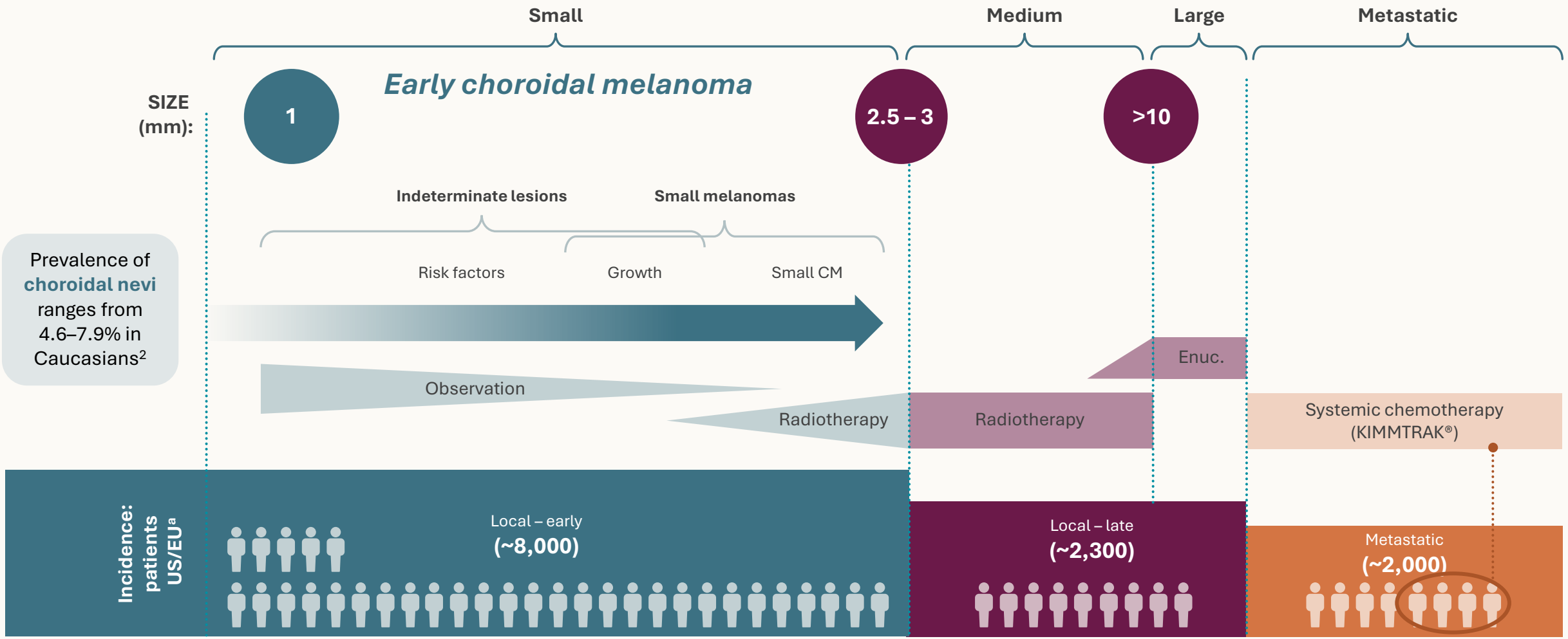
Frequent AEs; up to 87% become legally blind in the treated eye[1–6]

Radiation retinopathy	>40%
Surgeries secondary to AEs	>40%
Dry eye syndrome	~20%
Enucleation/eye loss	~10–15%
Neovascular glaucoma	~10%

[a] 75-80% of patients diagnosed with early-stage disease[7]. 2/3 of patients present with symptoms, 1/3 of patients diagnosed during routine exam.[8]

1. Kaliki S, Shields CL. *Eye*. 2017;31(2):241–257. **2.** Jarczak J et al. *Medicina (Kaunas)*. 2023;59(6):1131. **3.** Tsui I, et al. *Open Ophthalmol J*. 2015;9:131–5. **4.** Shields CL, et al. *Arch Ophthalmol*. 2000;118(9):1219–1228. **5.** Peddada KV, et al. *J Contemp Brachytherapy*. 2019;11(4):392–397. **6.** Shields CL et al. *Curr Opin Ophthalmol*. 2019;30(3):206–214. **AE**, adverse event; **CM,** choroidal melanoma; **SoC**, standard-of-care.

Bel-sar: pioneering frontline treatment for early choroidal melanoma



Current treatment landscape for choroidal melanoma[1-3]

[a]Each figure represents ~250 persons.

1. Shields CL et al. Choroidal and ciliary body melanoma. Available at: https://eyewiki.aao.org/Choroidal_and_Ciliary_Body_Melanoma Accessed September 9, 2024. **2.** Singh AD, et al. *Ophthalmology*. 2005;112(10):1784–89 (U.S. population).
3. Epidemiology analysis for choroidal melanoma and choroidal metastasis by ClearView Healthcare Partners and Putnam. **CM**, choroidal melanoma; **Enuc.**, enucleation.

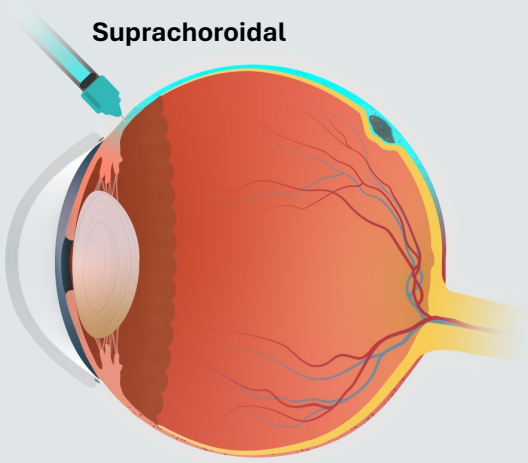
Bel-sar has the potential to be the first-in-class vision-preserving therapy

- Targeting initial adoption by ocular oncologists post approval
- Expansion to retina specialists who currently monitor patients for progression

Bel-sar is **designed to treat cancer early and preserve vision**

- Local tumor control
- Vision preservation
- No radiation-related morbidity
- Reduce metastasis risk with early treatment
- Improve safety and quality of life

Delivery via suprachoroidal injection



Two injections (2 min. each) 30 min. apart

In-office procedure

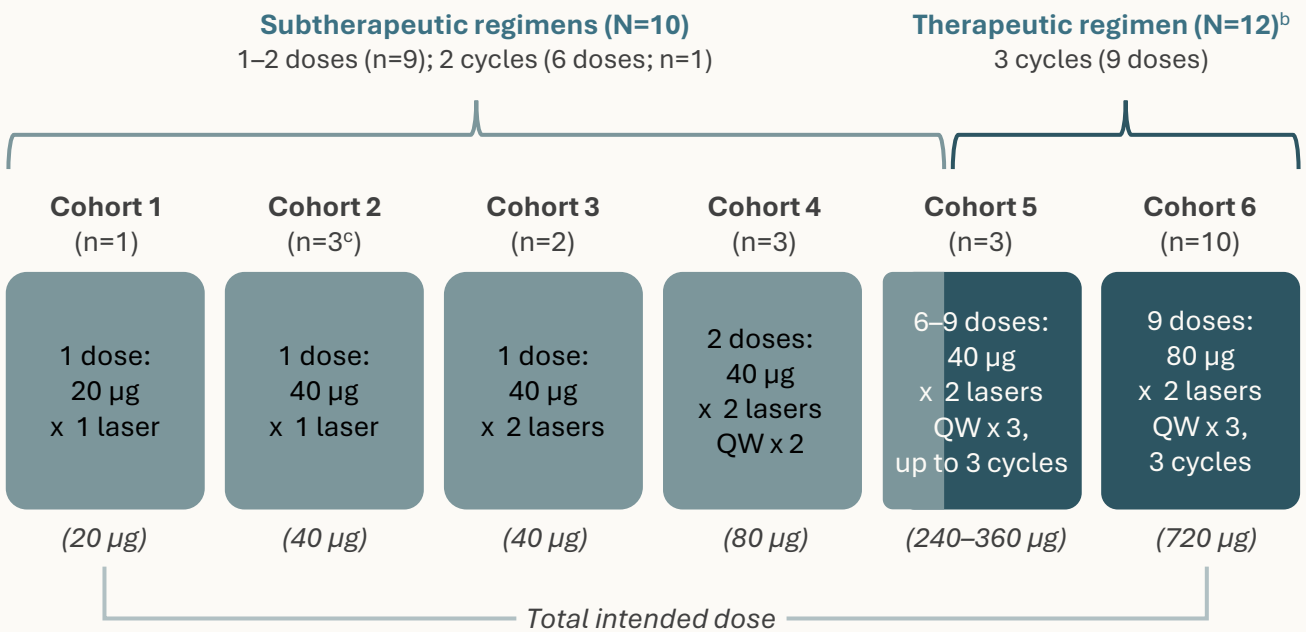
Light activation with standard ophthalmic laser

10-30 min. procedure

Phase 2 data validate bel-sar's potential in early choroidal melanoma

Open-label, dose-escalation with suprachoroidal administration

Patients with early choroidal melanoma[a] (n=22)



Results at 12-months follow-up:

Tumor control

- 80% tumor control rate[d]
- Complete cessation of growth among responders[d]

Visual acuity

- Visual acuity preservation in 90% of patients[d]

Safety

- Favorable safety profile; no treatment-related SAEs and no grade 3-5 treatment-related AEs

Route of administration

- Initial safety and efficacy data support SC administration

One cycle = Doses on days 1, 8, and 15. [a] Early choroidal melanoma, small choroidal melanoma or indeterminate lesions. [b] 12 patients enrolled, 1 patient who discontinued after 1 cycle due to unrelated SAEs is not included in data analysis (n=11). [c] Cohort 2: 2 participants were planned; third participant was additionally enrolled due to dose error in 1 participant. [d] Phase 3-eligible patients receiving therapeutic regimen (3 cycles) (n=10; one participant receiving a therapeutic regimen with a circumpapillary tumor that did not meet phase 3 criteria is not included). Local complete response, or CR, in early choroidal melanoma is described as tumor control and complete arrest of tumor growth by ocular oncologists.
AE, adverse event; **QW**, every week; **SAE**, serious adverse event; **SC**, suprachoroidal.
ClinicalTrials.gov Identifier, NCT04417530: AU-011-202. Data on file, Aura Biosciences.

Efficient phase 3 design in a rare disease setting

COMPASS

Goal: Determine efficacy and safety of bel-sar vs sham control for treatment of early choroidal melanoma

Participants with early choroidal melanoma[a]

Target enrollment ~100 participants globally

Sites in North America, Europe, Middle East and Asia-Pacific Regions

Randomization 2:1:2

- **80 µg bel-sar** (n=40)
- **40 µg bel-sar[b]** (n=20)
- **Sham control** (n=40)

15-month primary efficacy analysis

Primary endpoint

Time to tumor progression

Increase in tumor thickness ≥0.5 mm or ≥1.5 mm in LBD

First key secondary endpoint

Time to composite endpoint: Tumor progression or visual acuity failure

Increase in tumor thickness ≥0.5 mm or ≥1.5 mm in LBD **OR** ≥15 decrease in ETDRS-BCVA letter score from baseline

Received **fast track** and **orphan drug designations**

An **SPA agreement** indicates concurrence by the FDA that the design of the trial can adequately support a regulatory submission

[a] Early choroidal melanoma, small choroidal melanoma or indeterminate lesions. [b] 40 µg bel-sar arm included for masking; excluded from statistical analysis.
BCVA, best-corrected visual acuity; **CM**, choroidal melanoma; **ETDRS,** Early Treatment Diabetic Retinopathy Study; **FDA**, United State Food and Drug Administration; **LBD**, largest basal diameter; **SPA**, special protocol assessment.
ClinicalTrials.gov Identifier: NCT06007690; AU-011-301.

Strong phase 2 results support a highly-powered phase 3 study aligned with FDA-endorsed SPA

- Kaplan-Meier analysis simulation of time-to-event using phase 2 data

Time to tumor progression

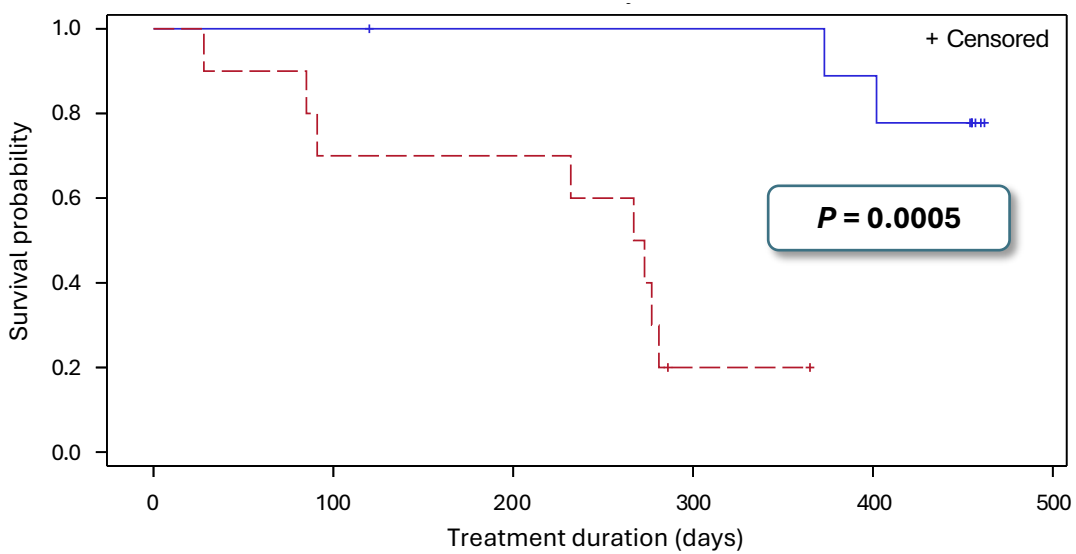
Change from baseline in thickness ≥0.5 mm; or in LBD ≥1.5 mm confirmed by at least one repeat assessment

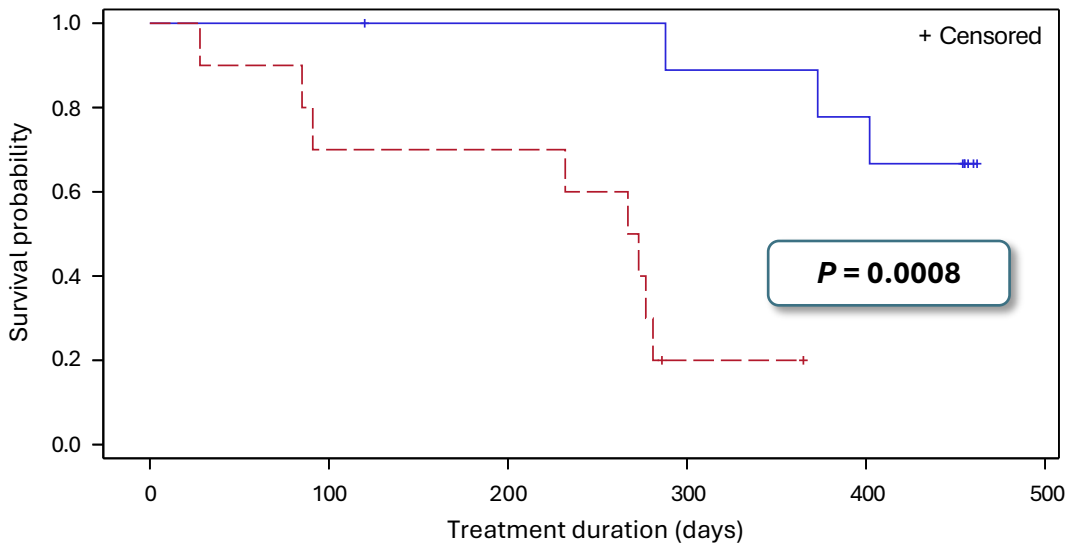
Therapeutic n=10

Subtherapeutic n=10

Time to composite endpoint

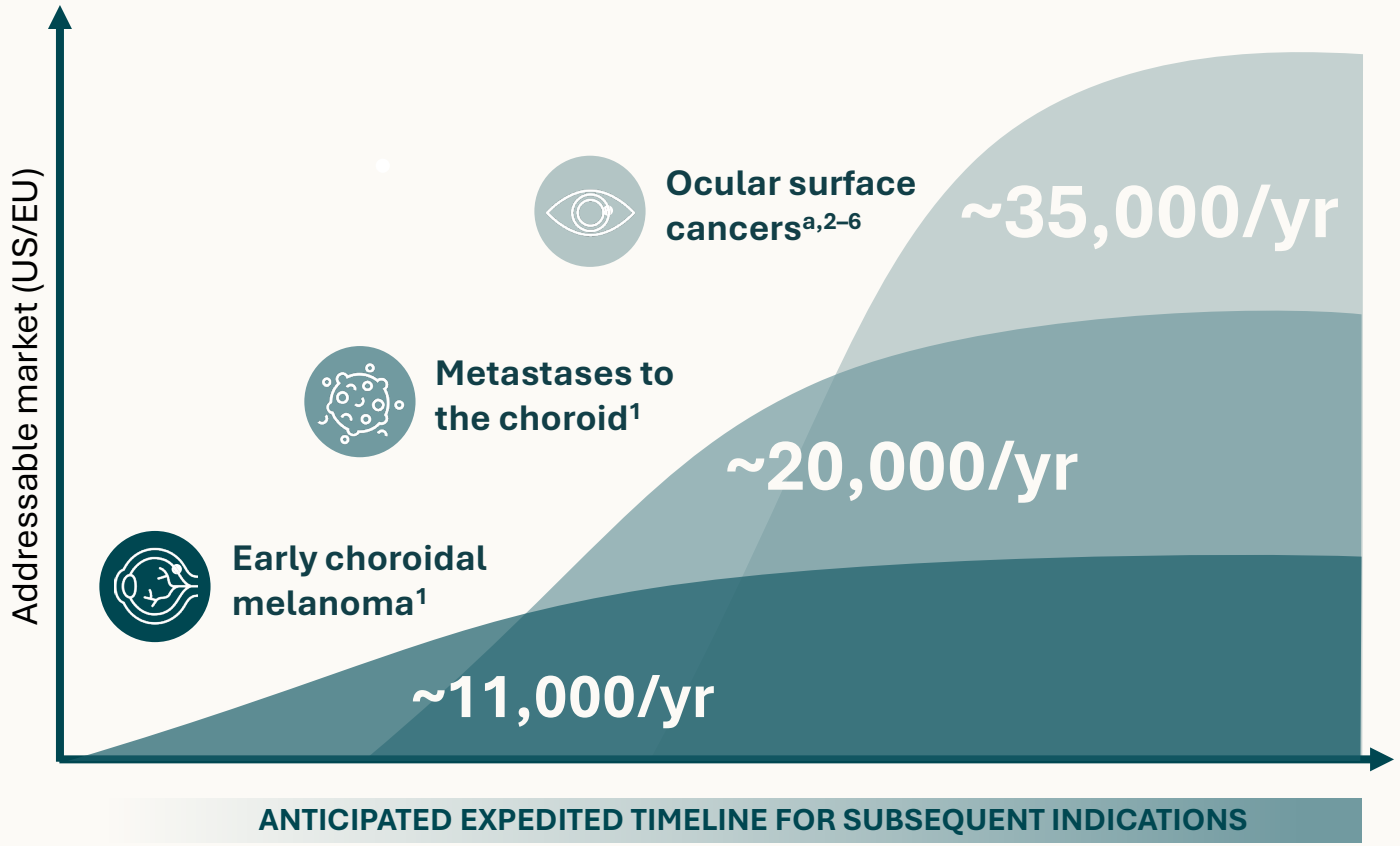
Time to tumor progression or vision acuity failure (≥15 letter loss in ETDRS-BCVA), whichever occurs earlier





Study duration 12 months. Participants either had an event or were censored at the last visit; some had their Week 52 visit after 365 days. Any events at the final visit are assigned to the actual time of that visit. Log-rank test *p*-value based on unsimulated original Kaplan-Meier curves.
BCVA, best-corrected visual acuity; **ETDRS,** early treatment diabetic retinopathy study; **FDA**, United States Food and Drug Administration; **LBD,** largest basal diameter; **SPA**, special protocol assessment. ClinicalTrials.gov Identifiers: NCT04417530; AU-011-202 (phase 2); NCT06007690; AU-011-301 (phase 3).
Data on file, Aura Biosciences.

Bel-sar has a **significant commercial opportunity** to expand into additional ocular oncology indications



Bel-sar's potential value drivers

- Highly favorable competitive landscape
- Regulatory and manufacturing synergies
- Focused call point (~100 ocular oncologists in US/EU) with potential expansion to retina specialists
- Same centers
- Small (<20) field-based team
- Buy-and-bill reimbursement

Bel-sar has the potential to transform the ocular oncology field as a **vision-preserving therapy** that **alleviates patient burden** and potentially **reduces local recurrence and risk of metastasis with early treatment**

[a]Includes conjunctival melanoma, primary acquired melanosis, squamous cell carcinoma and ocular surface squamous neoplasia.[2-6]

1. Epidemiology analysis for choroidal melanoma and choroidal metastasis by ClearView Healthcare Partners and Putnam. **2.** Yu G-P et al. *Am J Ophthalmol.* 2003;135(6):800-6. **3.** Triay E et al. *Br J Ophthalmol*. 2009;93(11):1524-8. **4.** Newton R et al. *Lancet*. 1996;347(9013):1450-1. **5.** Dalvin LA. *Br J Ophthalmol*. 2018;102(12):1728-1734. **6.** Sun EC et al. *Cancer Epidemiol Biomarkers Prev*. 1997;6(2):73-7.

Urologic oncology

Bel-sar target indications:

Intermediate-risk NMIBC | High-risk NMIBC

NMIBC, non-muscle-invasive bladder cancer.

Bladder cancer: High unmet medical need for function-preserving organ-sparing therapies

Bladder cancer is a significant patient and financial burden globally

9th most common cancer worldwide[1]

>600,000 cases/year globally[1]

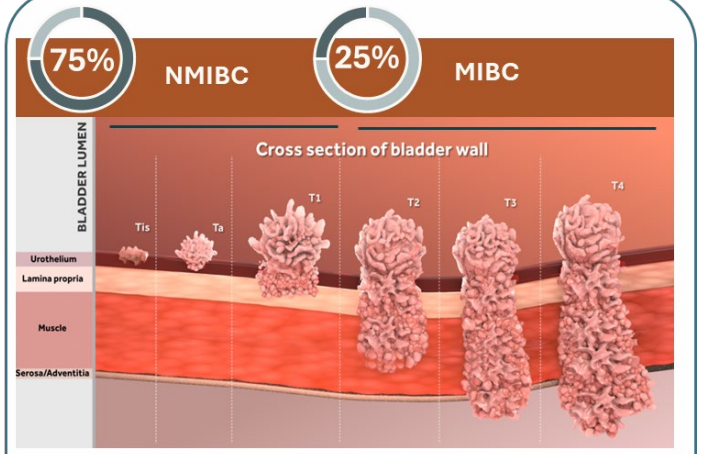
614,298 diagnosed in 2022[1]
(>7% increase from 2020)[1,2]

>$6 billion
Annual cost of treatment in US[3]

One of the highest lifetime treatment costs of all cancers

Conventional adjuvant treatments are suboptimal

- Significant treatment burden
- Side effects often lead to treatment discontinuation
- Inadequate efficacy leads to recurrence
- Risk of disease progression/metastasis
- Loss of bladder/cystectomy



Majority of patients present with NMIBC[4]

84% **do not complete a full course** of BCG treatment[5]

~75% with NMIBC develop **recurrence after treatment**[6]

>60% with HR NMIBC are at **risk of recurrence** within 1 year[7]

20% with HR NMIBC may **progress to MIBC** within 4 years of diagnosis[8]

50% with MIBC may progress to **metastatic disease**[9]

1. GLOBOCAN 2022. Bladder. Available at: https://gco.iarc.who.int/media/globocan/factsheets/cancers/30-bladder-fact-sheet.pdf. Accessed October 24, 2025. **2.** Sung H, et al. *CA Cancer J Clin*. 2021;71(3):209–49. **3.** Clark O, et al. *Pharmacoecon Open*. 2024;8(6):837–45. **4.** Burger M, et al. *Eur Urol*. 2013;63(2):234–41. **5.** Lamm DL, et al. *J Urol*. 2000;163(4):1124–9. **6.** Shalata AT, et al. *Cancers (Basel)*. 2022;14(20):5019. **7.** Gurbani CM, et al. *Bladder Cancer*. 2025;11(2):1–21. **8.** Shore ND, et al. *Urol Oncol*. 39(10):642–63. **9.** Patel VG, et al. *CA Cancer J Clin*. 2020;70(5):404–23. **BCG**, Bacillus Calmette-Guerin; **HR**, high risk; **MIBC**, muscle-invasive bladder cancer; **NMIBC**, non-muscle-invasive bladder cancer; **SAE**, serious adverse event; **TURBT,** transurethral resection of bladder tumor.

Bel-sar is a potential first-in-class frontline therapy designed to treat the tumor, activate durable anti-tumor immunity, and **reduce recurrence risk**

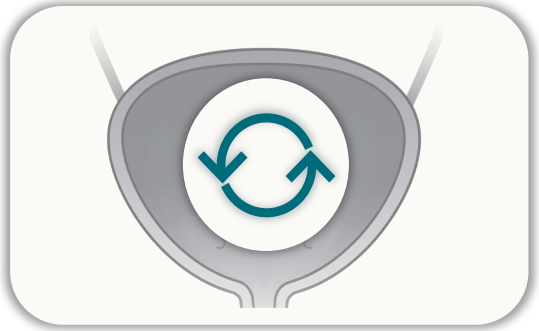
1 **Addresses a major unmet need**

2 **First tumor specific focal immune therapy**

3 **Transformative clinical and commercial potential**

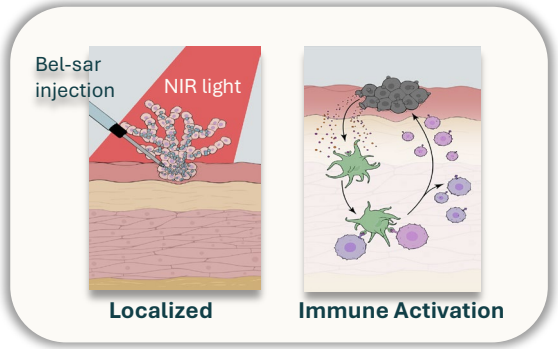
Current bladder cancer therapies are invasive and lack durable efficacy

Patients often face multiple recurrences and cumulative treatment burden



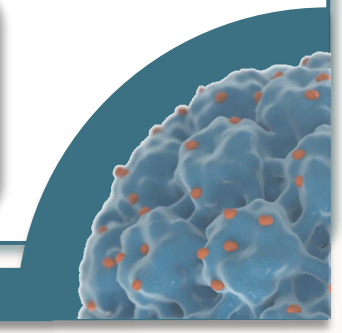
Bel-sar targets and destroys the tumor while triggering 'immune activation' within the tumor microenvironment

Elicits a durable, adaptive, anti-tumor immunity without systemic toxicity



Positioned as a frontline, off-the-shelf therapy with potential use across disease spectrum

In-office administration supports broad patient access and complements existing standards



NIR, near-infrared.

New formulation delivers a differentiated product optimized for urology practice

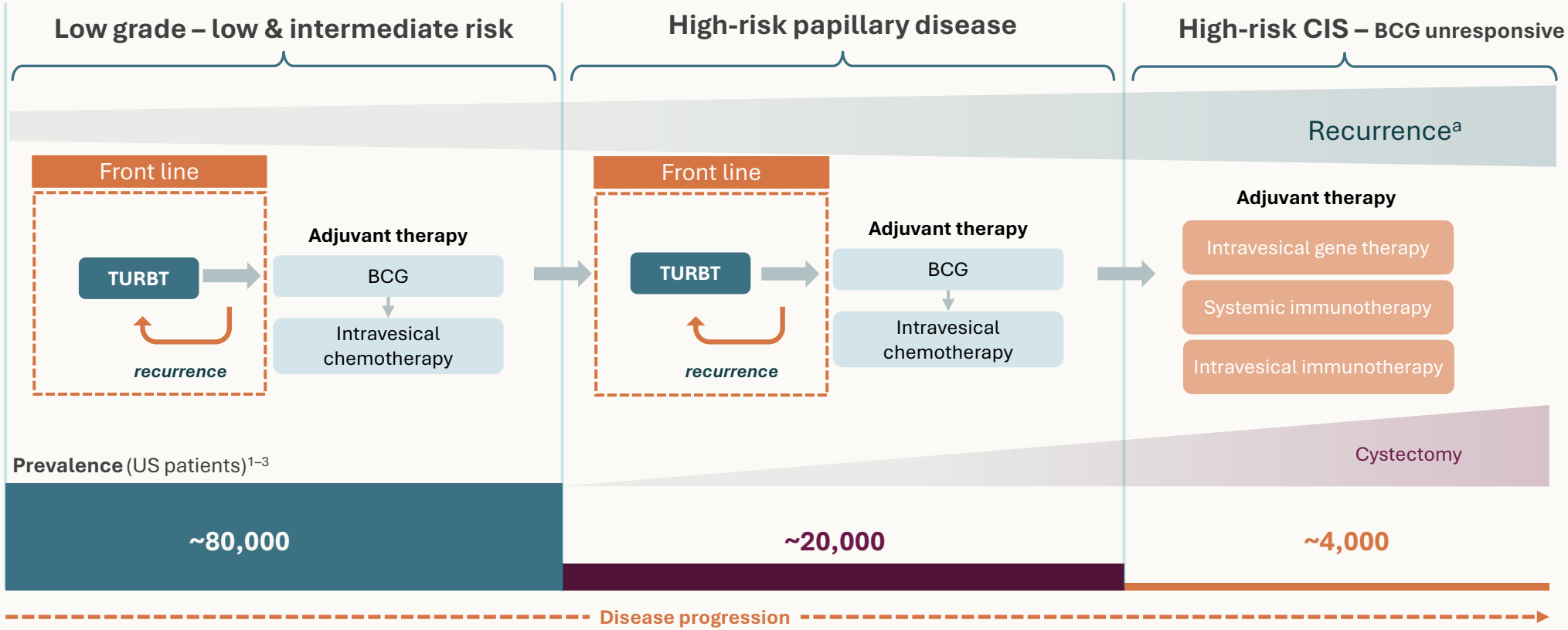
Purpose-built for urologists, simplifies delivery, supports broader access, and strengthens commercial positioning

12-Month stability demonstrated

- **Stable at 2–8°C** with simple refrigeration
- Convenient administration in **urologist office** anticipated
  - No need for cold chain (–70°C)
  - No need for biosafety (BSL-2)
  - No need for general anesthesia
  - <20-minute procedure
- **No special delivery or handling expected**
- Adjusted volume and concentration

BSL, biosafety level.

Current treatment paradigm based on upfront resection leads to recurrence

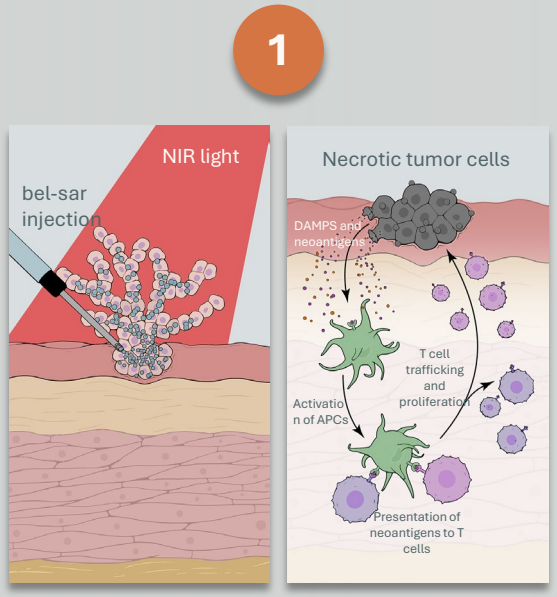


High recurrence rate leads to multiple surgeries and burdensome adjuvant treatment intervention

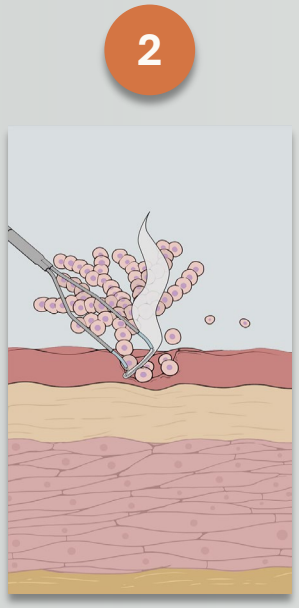
[a]42–84% of low-grade intermediate-risk patients develop recurrence.[4,5] **1.** Holzbeierlein JM et al. *J Urol.* 2024;212(1):3–10. **2.** Holzbeierlein JM et al. *J Urol.* 2024 Apr;211(4):533–58. **3.** Internal Aura epidemiology of market size; data on file. **4.** Shalata AT, et al. *Cancers (Basel).* 2022;14(20):5019. **5.** van Rhijn BWG, et al. *Eur Urol.* 2009;56(3):430–42. **BCG**, Bacillus Calmette-Guérin; **CIS**, carcinoma *in situ;* **TURBT**, transurethral resection of bladder tumor.

Bel-sar is pioneering the neoadjuvant space in NMIBC

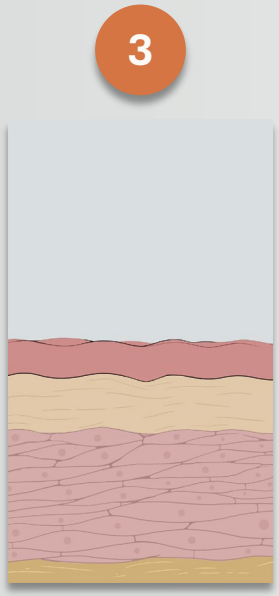
Bel-sar offers a first-line, tumor-directed approach designed for lasting benefit



Bel-sar's directed anti-tumor immune response



TURBT +/- single instillation



No tumor cells + immune surveillance

Treatment goals

- Durability of response
- Reduced recurrence
- Reduced risk of progression
- Reduced subsequent treatment burden with fewer interventions

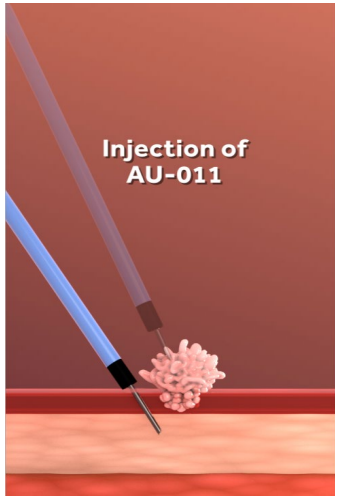
In-office administration of bel-sar supports potential broad patient access and scalability, driving adoption and differentiation – complementing, not replacing, existing standards

APCs, antigen-presenting cells; **DAMPs**, damage-associated molecular patterns; **NIR**, near infrared; **NMIBC**, non-muscle-invasive bladder cancer; **TURBT**, transurethral resection of bladder tumor.

Phase 1 safety and feasibility study:
Bel-sar administered before scheduled biopsy and SoC TURBT

Treatment phase: Feasibility and mechanism of action

Day 1



Cystoscopy + biopsy
bel-sar injection

Pathology specimen

Day 2

Cystoscopy
laser light activation

Day 9 ± 1 (Cohort A)
Day 14+7 (Cohort B+C)

Final cystoscopy

SoC TURBT
Pathology specimen

Final efficacy evaluation

Follow-up phase: Safety

Day 56 ± 7

Final safety evaluation

End of follow-up

Clinical response data up to 21 days;
safety data up to 56 days

SoC, standard-of-care; **TURBT**, transurethral resection of bladder tumor.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102.

Single dose of bel-sar produced **clinical complete responses** in intermediate- and high-risk NMIBC

Intermediate risk (n=5)

- **4/5 treated tumors achieved cCR**, while the fifth treated tumor showed visual tumor shrinkage
- **3/5** patients demonstrated **cCR** in at least one **untreated tumor**
- **Visual changes** on cystoscopy identified in **4/5** patients
- **100%** of treated and untreated tumors demonstrated **immune response**[a]

High risk (n=5)

- **3/5** treated tumors demonstrated **visual tumor shrinkage**
- **1/5** patients achieved **cCR** in both the **treated tumor and an untreated tumor**
- **Visual changes** on cystoscopy identified in **4/5** patients
- **100%** of treated and untreated tumors demonstrated **immune response**[a]

Favorable safety profile observed (n=17)[b]

- <10% of patients experienced Grade 1 TEAEs related to study drug
- No Grade 2/3 TEAEs related to study drug
- No SAEs or DLTs

For purposes of this analysis, cCR is defined as absence of tumor cells on histopathologic evaluation. [a] Immune response defined by immunocyte infiltration on post-treatment histopathology. [b] Safety data include all completed light-activated cohorts (A, B, and C), including two patients treated but not efficacy evaluable (n=12), plus the drug-only cohort that received no light activation (n=5). Safety data cutoff date of July 28, 2025.
cCR, clinical complete response; **DLT**, dose-limiting toxicity; **NMIBC**, non-muscle invasive bladder cancer; **SAE**, serious adverse event; **TEAE**, treatment-emergent adverse event.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102. Data cutoff March 3, 2025.

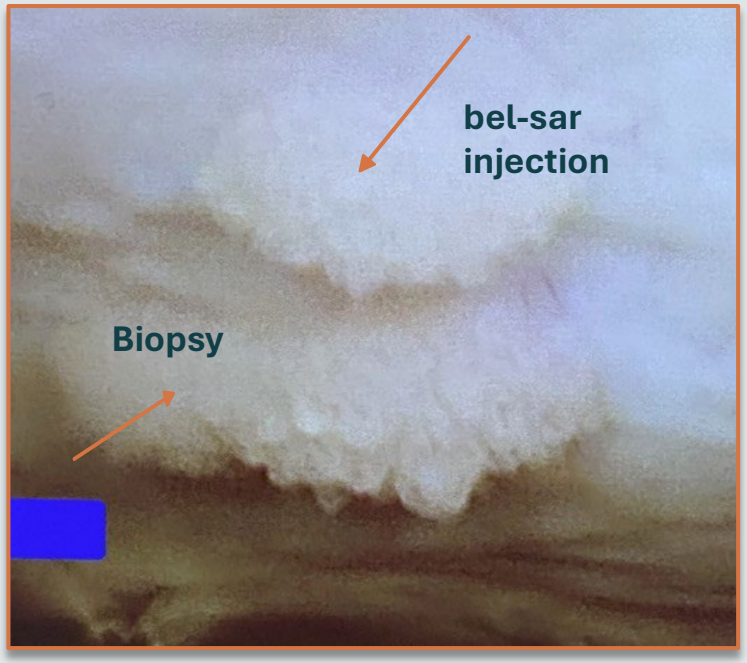
Case study: Clinical complete response confirmed in a patient with highly recurrent disease

Cohort A:
72-year-old male

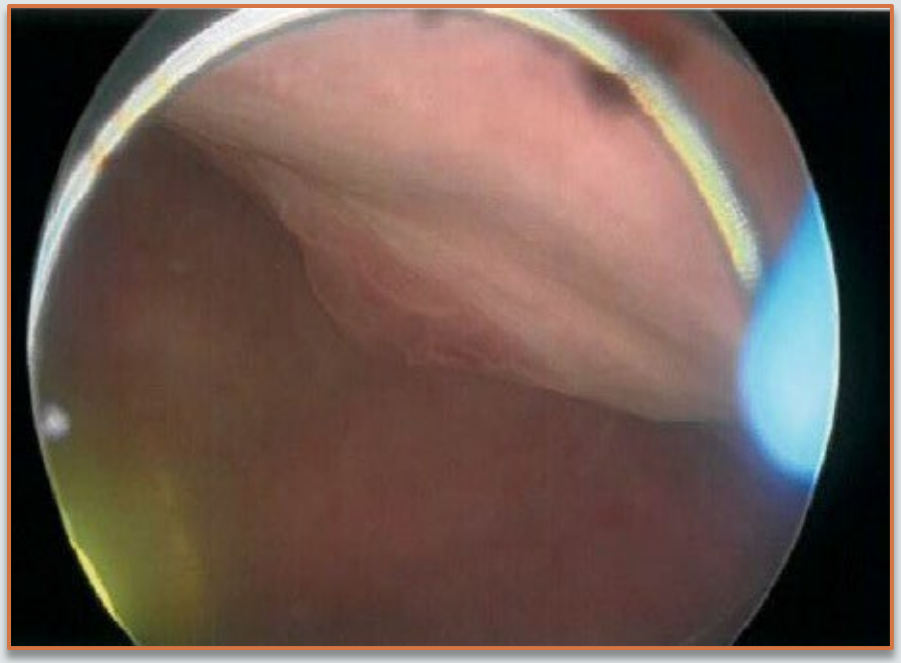
Single dose bel-sar + light activation

- Multiple Ta low-grade tumors, intermediate risk (no CIS)
- History of Ta high-grade (<3cm), intermediate risk
- Multiple prior TURBT surgery (x6)
- Prior BCG induction and maintenance

Clinical complete response visualized at time of TURBT[a]



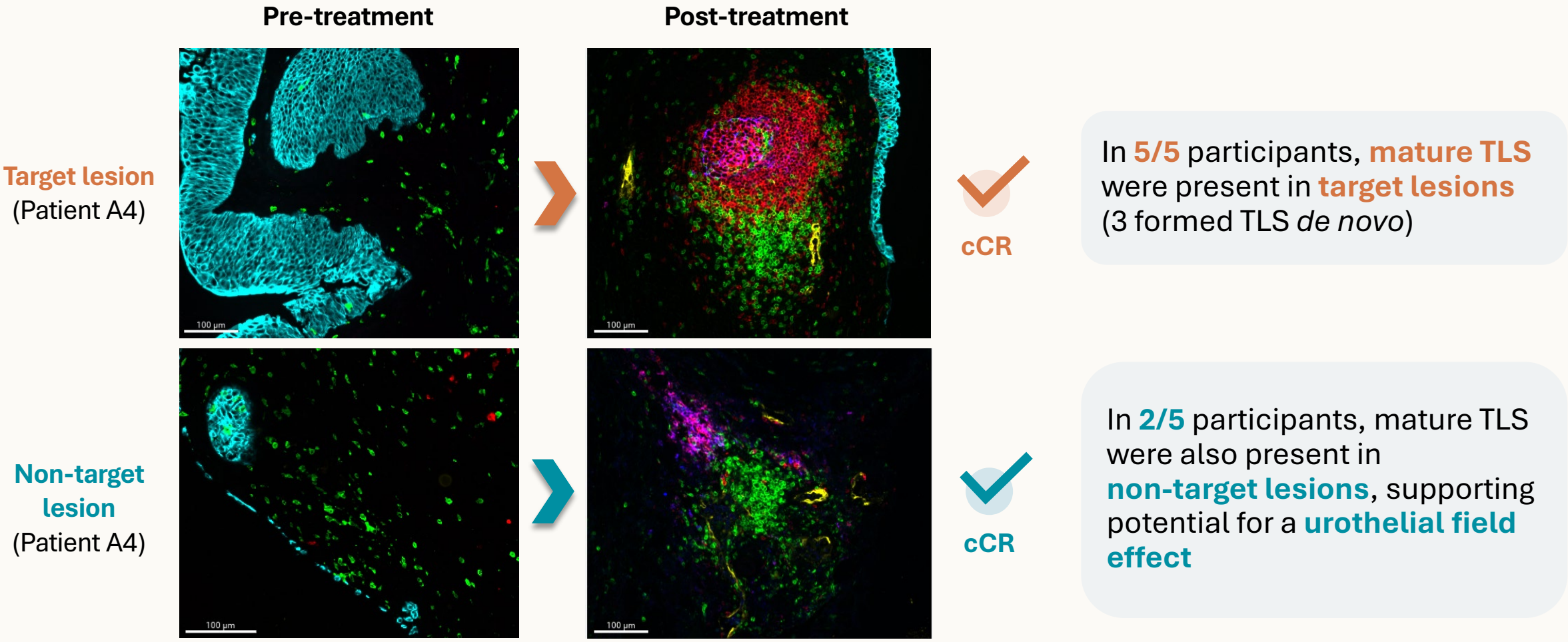
Tumor pre-injection/pre-biopsy



Post-injection edema and ecchymosis at injection site

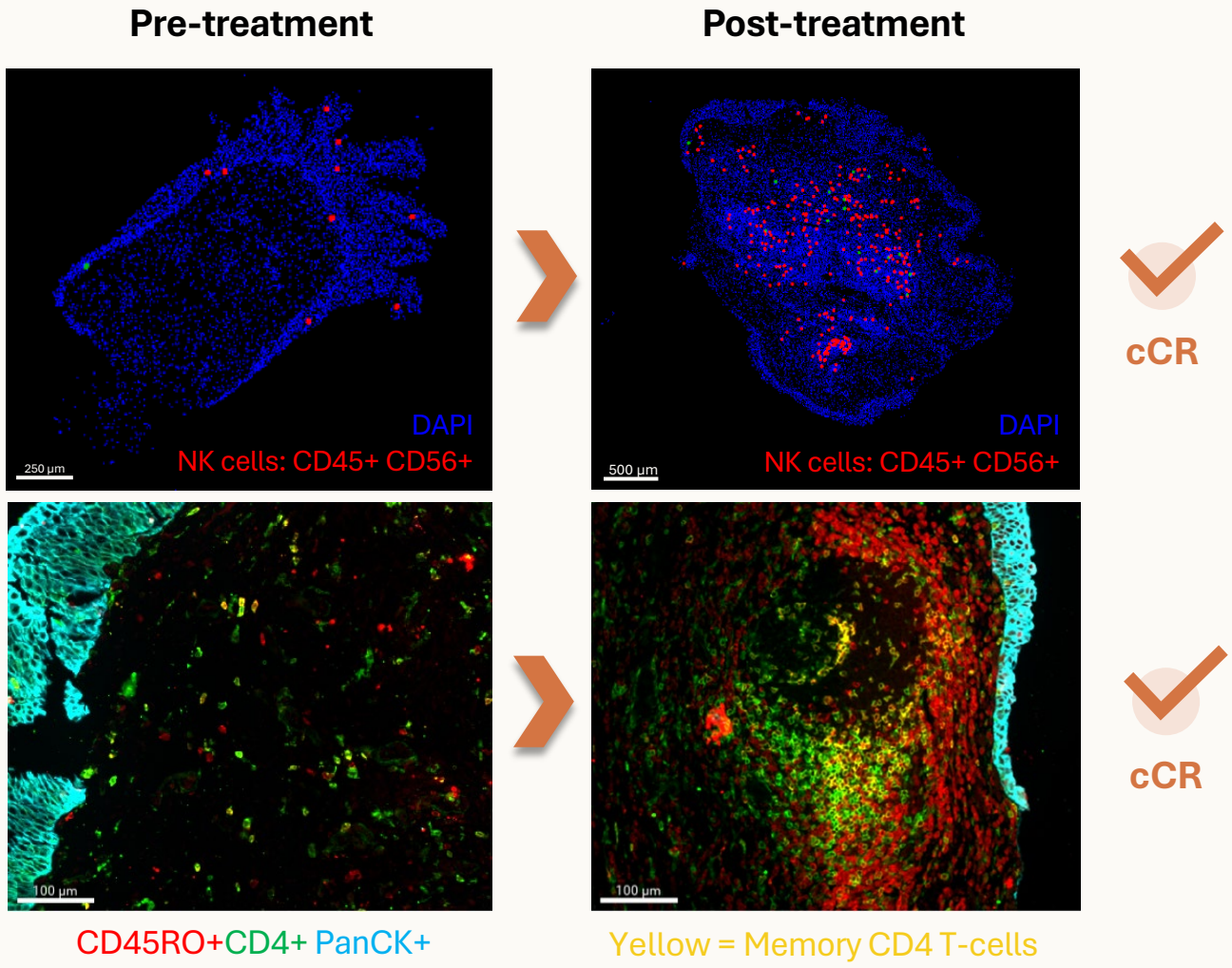
[a] Confirmed with histopathologic evaluation. **BCG**, Bacillus Calmette-Guerin; **CIS**, carcinoma *in situ*; **TURBT**, transurethral resection of bladder tumor.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102. Data cutoff March 3, 2025.

Bel-sar induced **adaptive immune memory** through generation of *de novo* mature tertiary lymphoid structures (TLS)



Multiplex immunofluorescence images from Patient A4.
cCR, clinical complete response; **TLS**, tertiary lymphoid structures.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102.
Note: 5 of 10 efficacy evaluable phase 1 patients selected for multiplex immunofluorescence analysis to further characterize bel-sar's mechanism of action in bladder cancer.

Bel-sar generated innate and adaptive effectors regardless of immune environment; Converted “cold” TME to “hot”, and reversed dysfunction in exhausted tumors



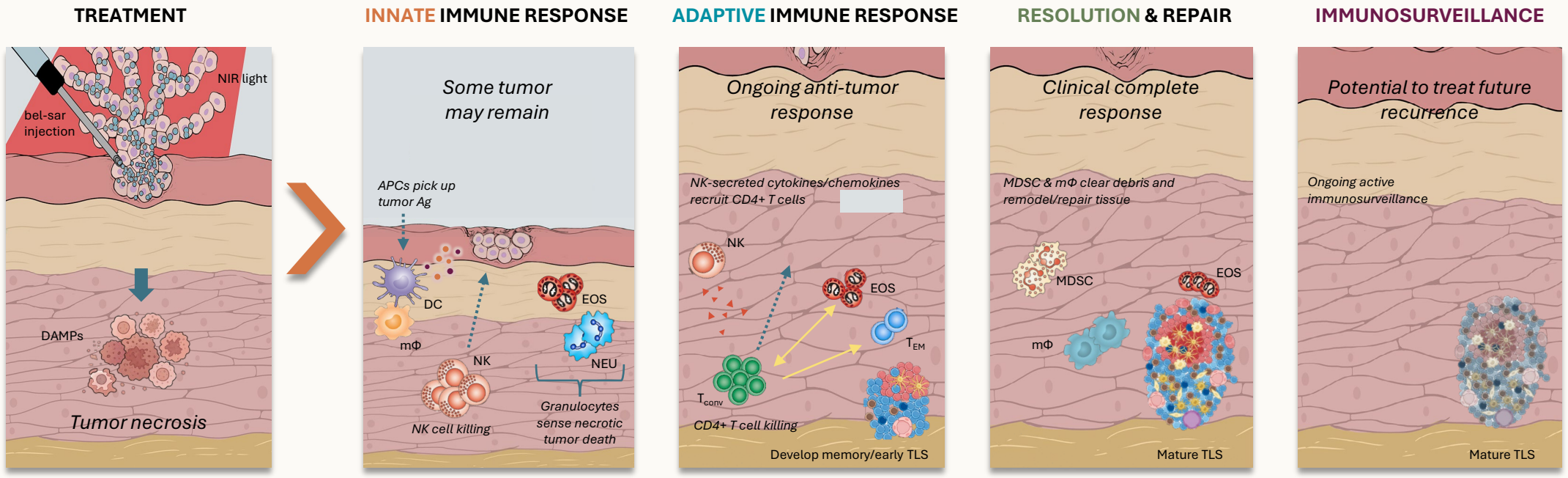
In treated lesions:

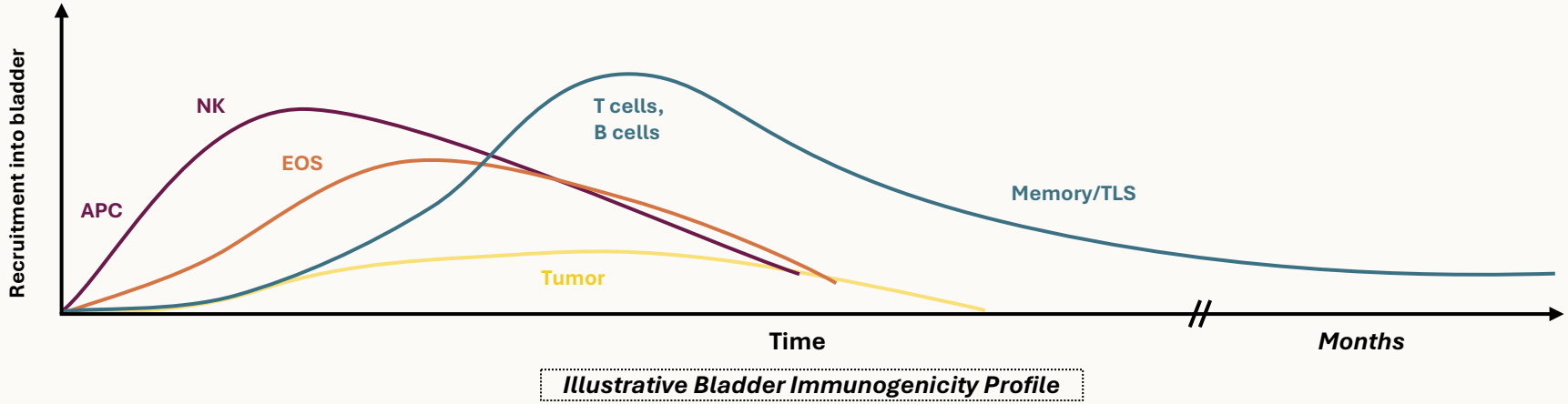
- **Natural killer cell** density increased up to **40x**
- **CD4+ cytolytic T cell** density increased up to **7x**

In **5/5** participants, **CD4+ and CD8+ memory T cells** were observed after bel-sar treatment

cCR, clinical complete response; **NK**, natural killer; **TME**, tumor microenvironment.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102.
Note: 5 of 10 efficacy evaluable phase 1 patients selected for multiplex immunofluorescence analysis to further characterize bel-sar’s mechanism of action in bladder cancer.

Mechanism of action: Bel-sar in bladder cancer

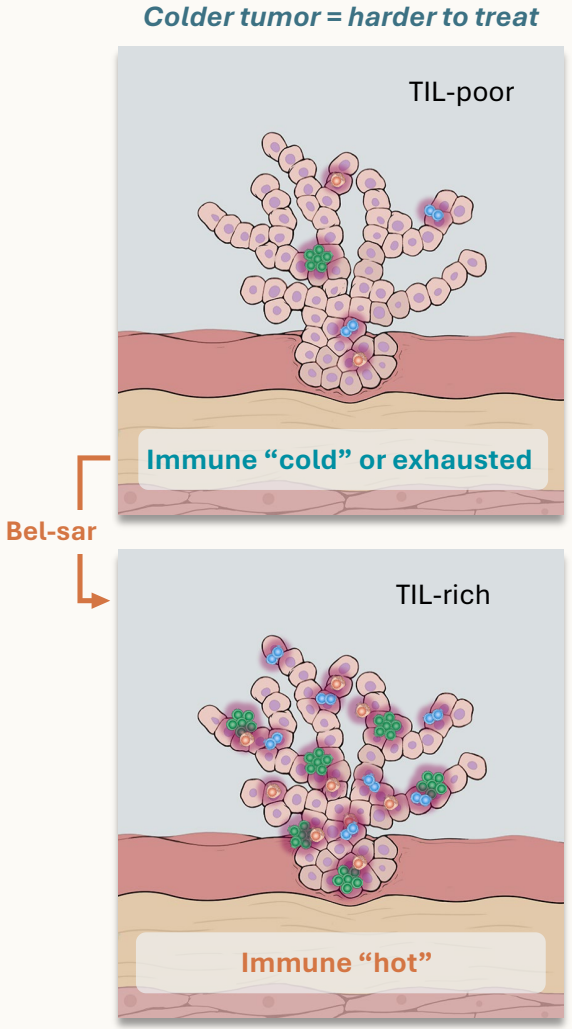




Ag, antigen; **APC**, antigen-presenting cell; **DAMPs**, damage-associated molecular patterns; **DC**, dendritic cell; **EOS**, eosinophils; **mΦ**, macrophage; **MDSC**, myeloid-derived suppressor cells; **NEU**, neutrophil; **NIR**, near infrared; **NK**, natural killer cells; T_{conv}, conventional T cells; T_{EM}, effector memory T cells; **TLS**, tertiary lymphoid structure; **TME**, tumor microenvironment.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102.

Bel-sar may **disrupt the bladder cancer treatment paradigm** with an in-office frontline treatment approach

Colder tumor = harder to treat



Current adjuvant therapies

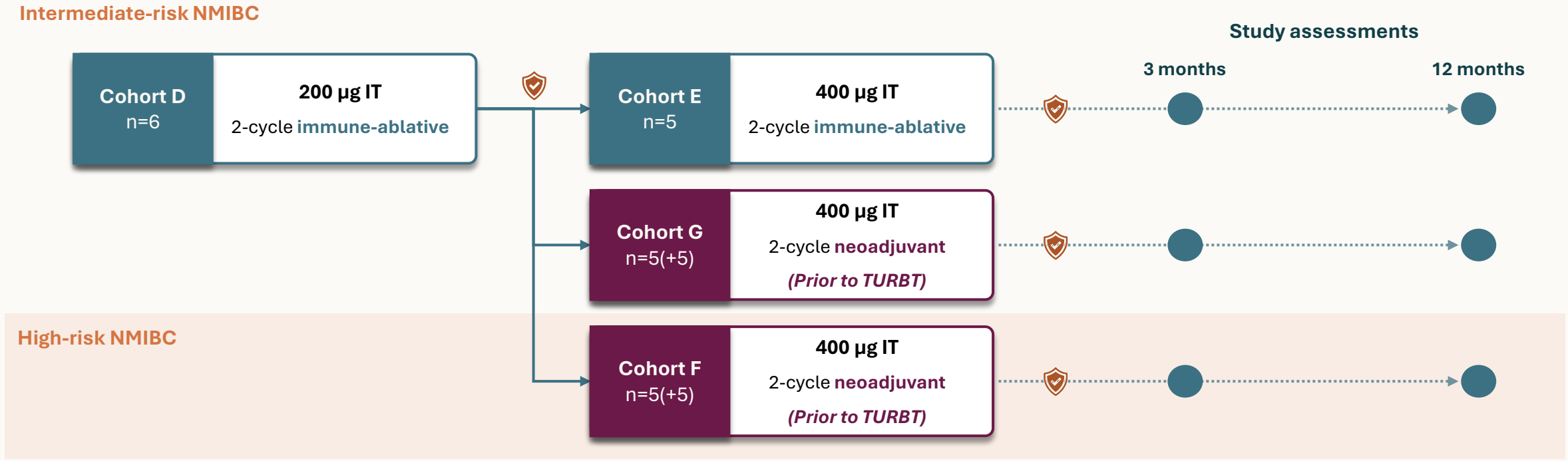
- Generate **unspecific cytotoxicity** without primary modification of immune landscape
- Work best in **"hot"** tumors
- Majority rely on **acute, innate immune response**
- Show **little evidence** of inducing long-term adaptive immune memory

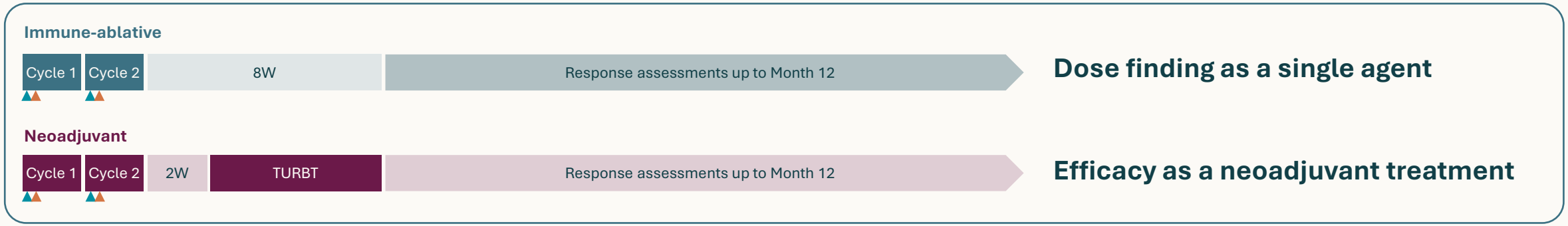
Bel-sar's unique frontline approach[1]

- Induced **adaptive immune memory** through generation of mature TLS and memory T cell infiltration
- Generated **innate and adaptive effectors** regardless of immune environment
- Converted **"cold"** TME to **"hot"**, and reverses dysfunction in exhausted tumors

1. Based on Phase 1 multiplex immunofluorescence data. 5 of 10 efficacy evaluable phase 1 patients selected for multiplex immunofluorescence analysis to further characterize bel-sar's mechanism of action in bladder cancer.
TIL, tumor-infiltrating lymphocytes; **TLS**, tertiary lymphoid structures; **TME**, tumor microenvironment.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102.

Phase 1b/2 study design to evaluate dose and regimen in NMIBC





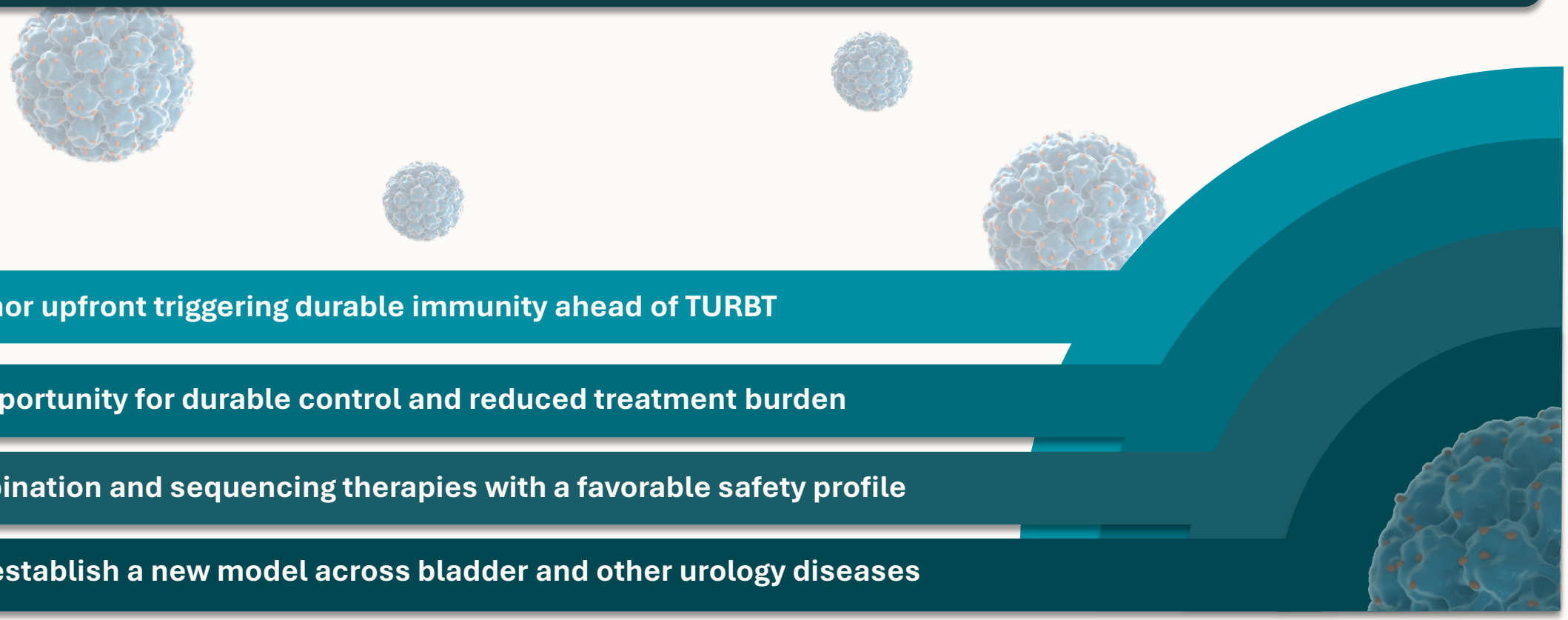
▲ *Bel-sar injection* ▲ *Laser*

Dose per tumor, per treatment. Up to three tumors treated per visit. [a]+2-day window for injection in 2nd treatment cycle.
DLT, dose-limiting toxicity; **IT**, intratumoral; **NMIBC**, non-muscle-invasive bladder cancer; **TURBT**, transurethral resection of bladder tumor; **W**, week.
Clinicaltrials.gov identifier: NCT05483868; AU-011-102.
Note: Simplified schema of study design. The Company has two optional cohorts H and I.

Safety review conducted after 3 participants have completed the DLT period for a given cohort (14 days post-laser application in last treatment cycle)

Bel-sar has the **potential to transform frontline bladder cancer**

With no current approved neoadjuvant NMIBC therapies,
Bel-sar is pioneering the frontline treatment space



- **Treat the tumor upfront triggering durable immunity ahead of TURBT**
- **Create an opportunity for durable control and reduced treatment burden**
- **Enable combination and sequencing therapies with a favorable safety profile**
- **Potential to establish a new model across bladder and other urology diseases**

NMIBC, non-muscle-invasive bladder cancer; **TURBT**, transurethral resection of bladder tumor.

Company highlights

Corporate

- **Current cash** expected to fund operations into **Q1 2027**
- **Experienced leadership** team across functions

Urologic oncology therapeutic area

- **Bel-sar converted "cold" to "hot" tumors in phase 1 trial in NMIBC**, supporting a potential front-line therapy across the bladder cancer spectrum
- **Phase 1b/2 trial** evaluating additional doses and cycles in intermediate and high-risk NMIBC patients on track with data expected mid-2026

Ocular oncology therapeutic area

Early choroidal melanoma

- **Global phase 3 CoMpass** trial actively enrolling; mid-2026 enrollment completion and 2H 2027 topline data readout anticipated
- **Special protocol assessment (SPA)** agreement with FDA

Metastases to the choroid

- **High unmet need** with no drugs approved[1]
- Phase 2 proof-of-concept data expected in 2026

Cancers of the ocular surface

- **Phase 1 proof-of-concept data** expected in 2026
- **One of the largest** ocular oncology indications

1. ClearView & Putnam & Assoc. Epidemiology Analysis Choroidal Melanoma and Choroidal Metastasis.
FDA, United States Food and Drug Administration; **NMIBC**, non-muscle-invasive bladder cancer; **SPA**, special protocol assessment.

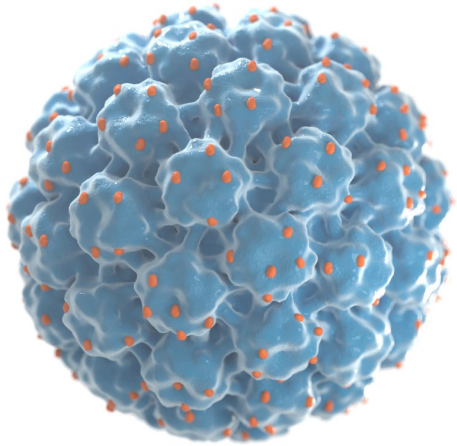
Appendix

Virus-like drug conjugates (VDCs) have potential advantages over oncolytic viruses

- **Broader and more specific tropism** for binding over normal tissue
- **No viral genes expressed** to compete with tumor antigens for induction of cell-mediated immunity
- **Killing mechanism** promotes induction of cell-mediated immunity to tumor antigens
- **Evolution of escape mutants less likely**; unlike virus cell surface and uptake receptors, HSPG modifications appear to be drivers of oncogenesis

HSPG, heparan sulphate proteoglycans; **VDC**, virus-like drug conjugate.

Bel-sar's MoA has shown synergy with PD-1 mAb in pre-clinical models

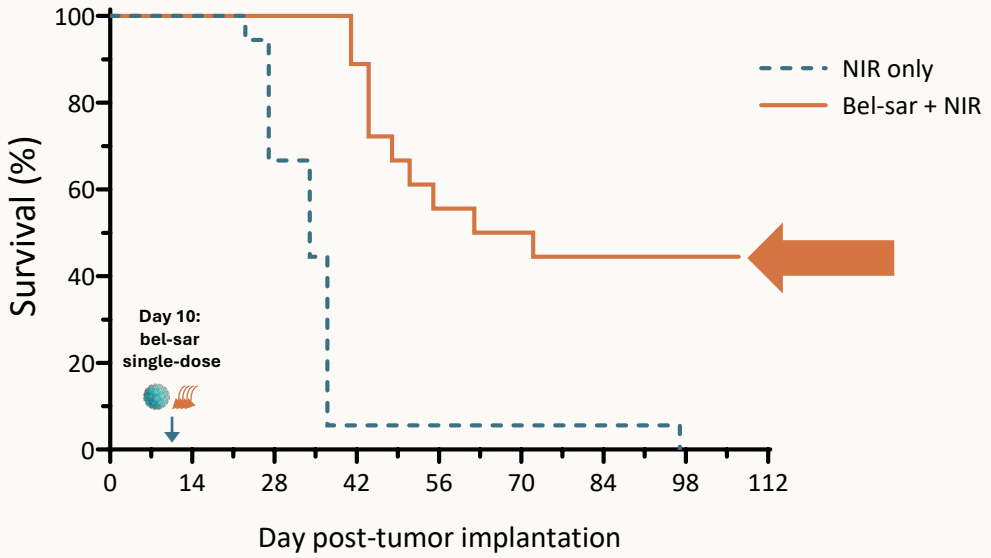


- Bel-sar's MoA can transform the immune suppressive tumor microenvironment
- Bel-sar's approach is mutation agnostic and can address the problem of intratumor heterogeneity
- Combination with anti-PD1 mAb has shown synergy *in vivo* and long-term durability of response

MoA, mechanism of action; **mAb**, monoclonal antibody.

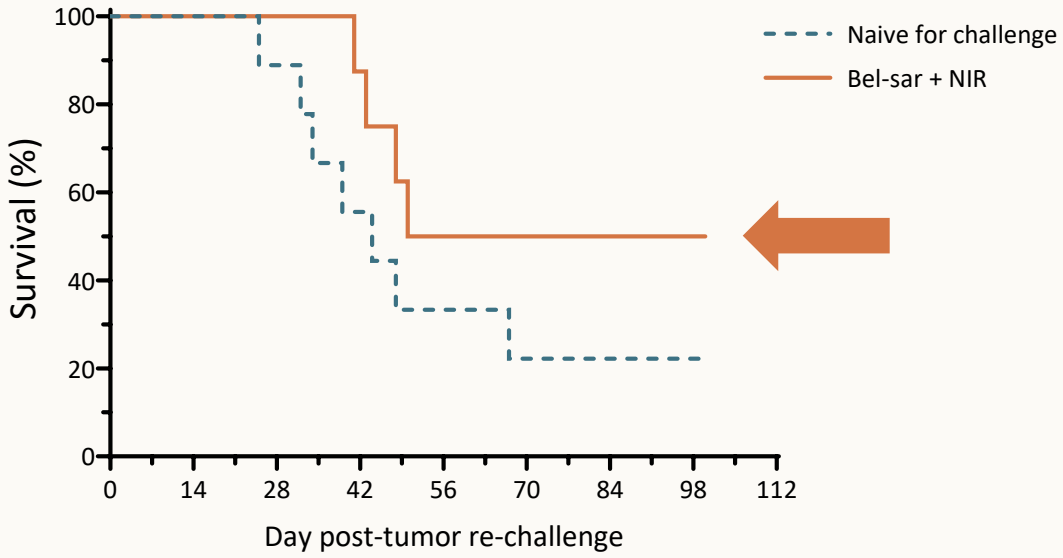
Preclinical studies demonstrated **long-term tumor-free survival** and induction of **anti-tumor responses** after a single bel-sar treatment

Tumor-free survival after single dose of bel-sar



Long-term tumor-free survival

Tumor-free survival after tumor re-challenge

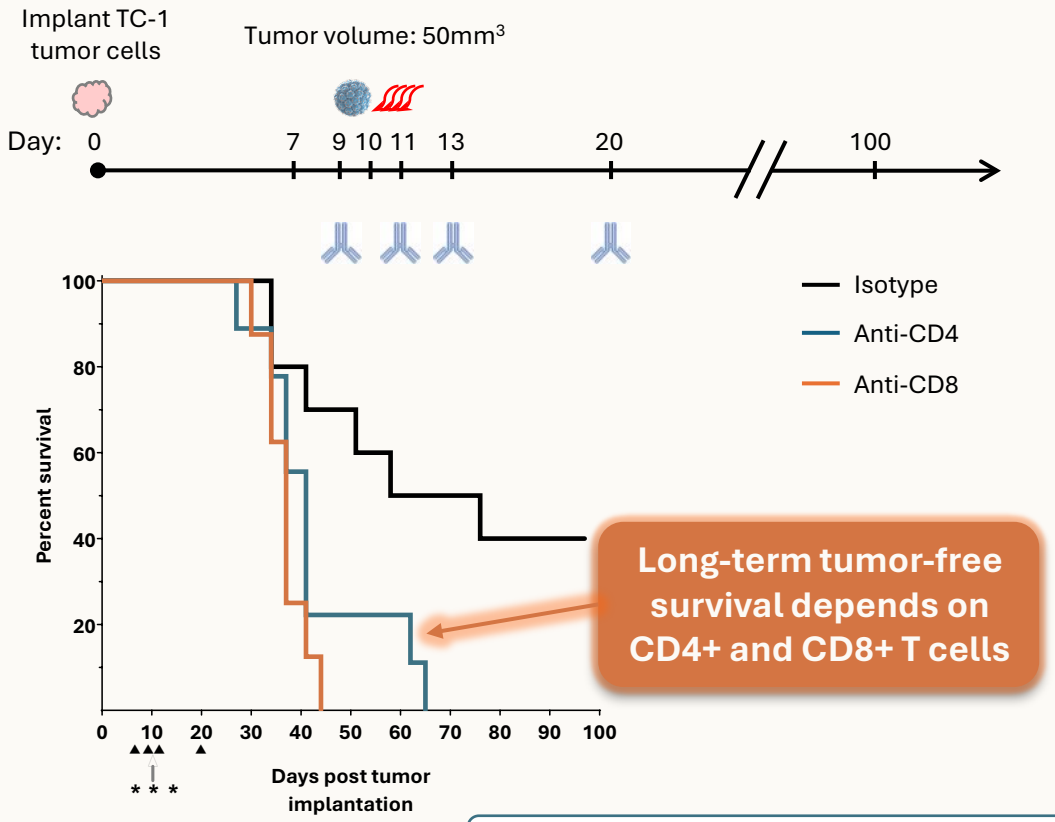


Long-term protection from tumor re-challenge

Preclinical studies in TC-1 murine tumor model. Kines RC, et al. *Cancer Immunol Res*. 2021;9(6):693–706.
NIR, near-infrared (light).

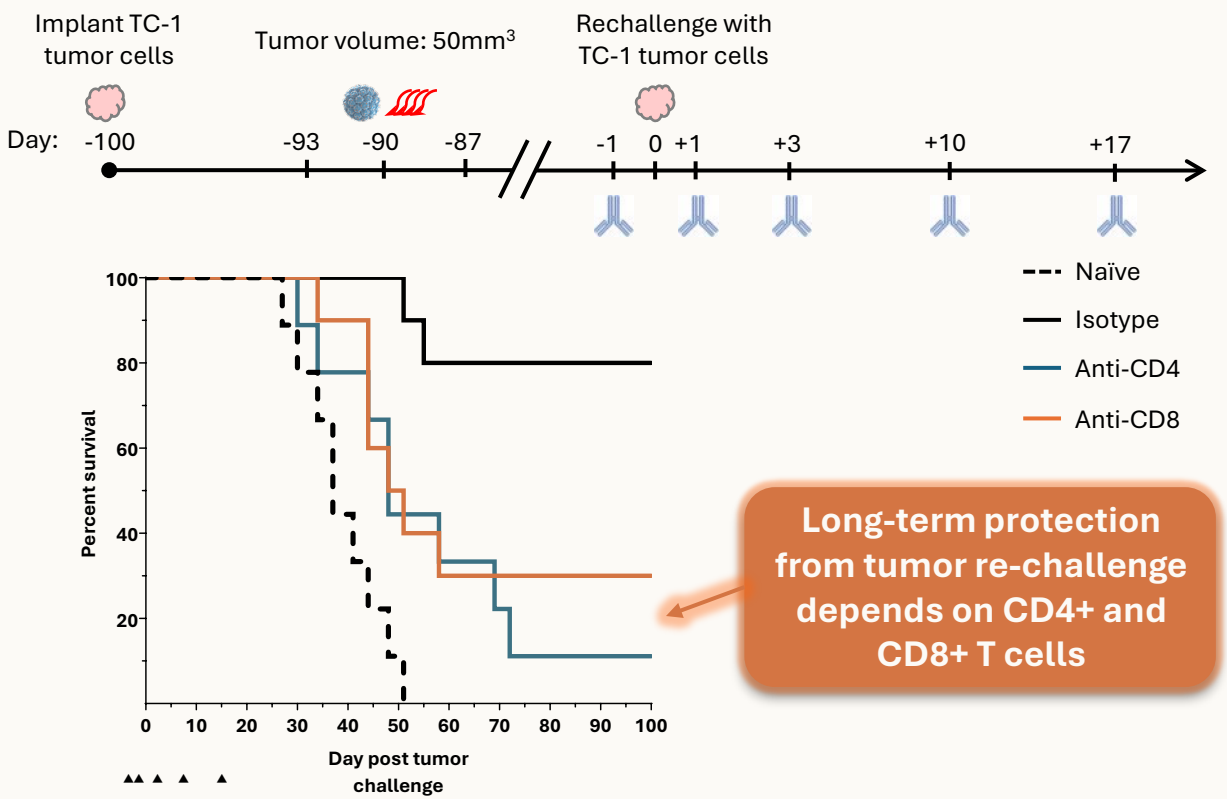
CD4+ and CD8+ T-cells are key to **long-term durability of response** and protection from rechallenge with bel-sar

Depletion of CD4+ and CD8+ T cells at the time of treatment



Long-term tumor-free survival depends on CD4+ and CD8+ T cells

Depletion of CD4+ and CD8+ T cells at time of rechallenge



Long-term protection from tumor re-challenge depends on CD4+ and CD8+ T cells

Intravenous bel-sar | NIR treatment | Depleting or matched isotype

Preclinical studies in TC-1 murine tumor model. Kines RC, et al. *Cancer Immunol Res*. 2021;9(6):693–706.
NIR, near-infrared (light).

Robust pre-clinical activity both as a single agent and in combination with anti-PD1

Bel-sar treatment impacts primary and distant tumors, overall survival, and induction of durable immunological memory

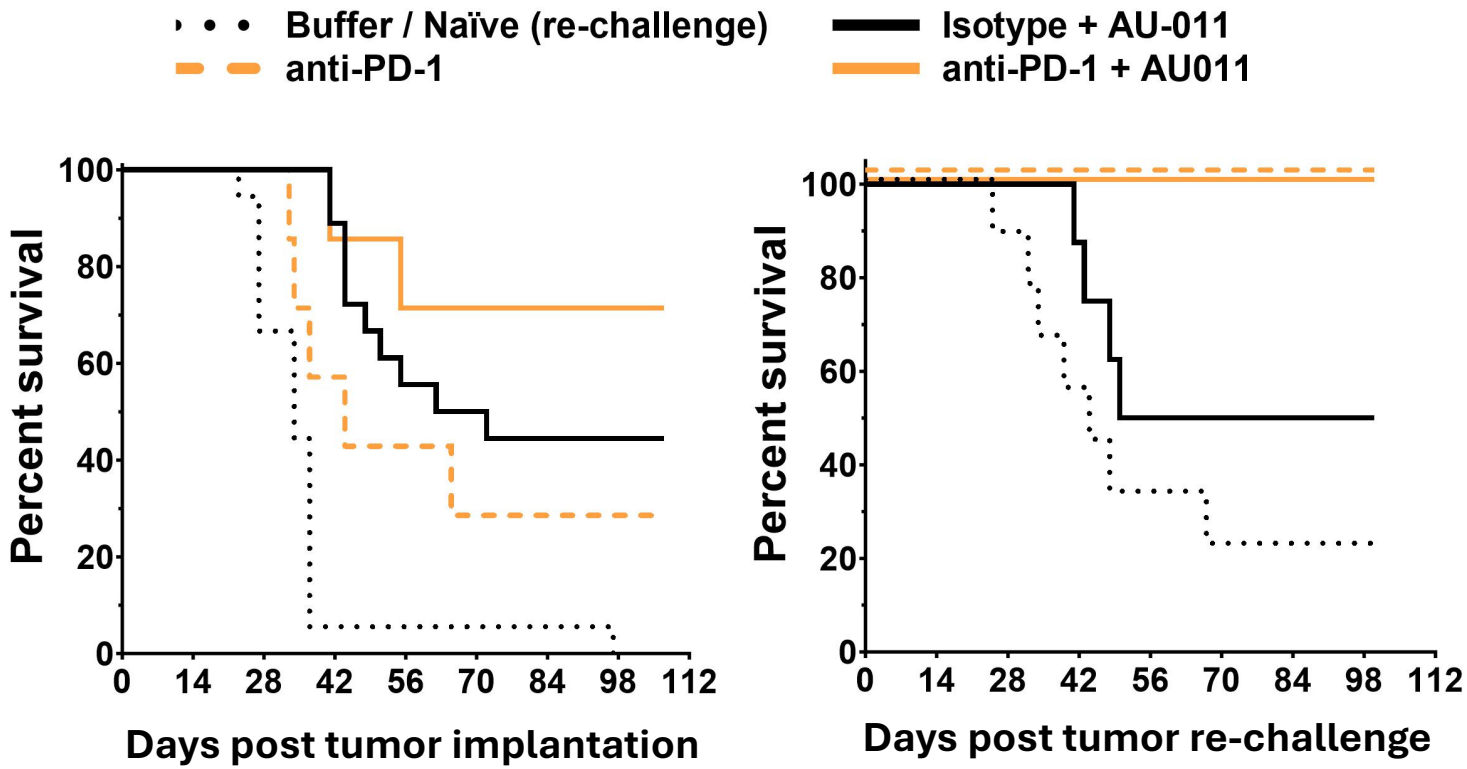
Treatment resulted in complete response and prevented tumor growth after rechallenge

Syngeneic mouse tumor model
- TC-1 model in C57BL/6 mice
- N = 8–10/group

Anti-PD-1
- 100 µg administered once every 3 days (IP)

AU-011
- 100 µg as a single dose (IV)
- All groups treated with NIR (50 J/cm^2)

All animals that survived the first treatment were rechallenged and survival was evaluated up to 100 days after rechallenge

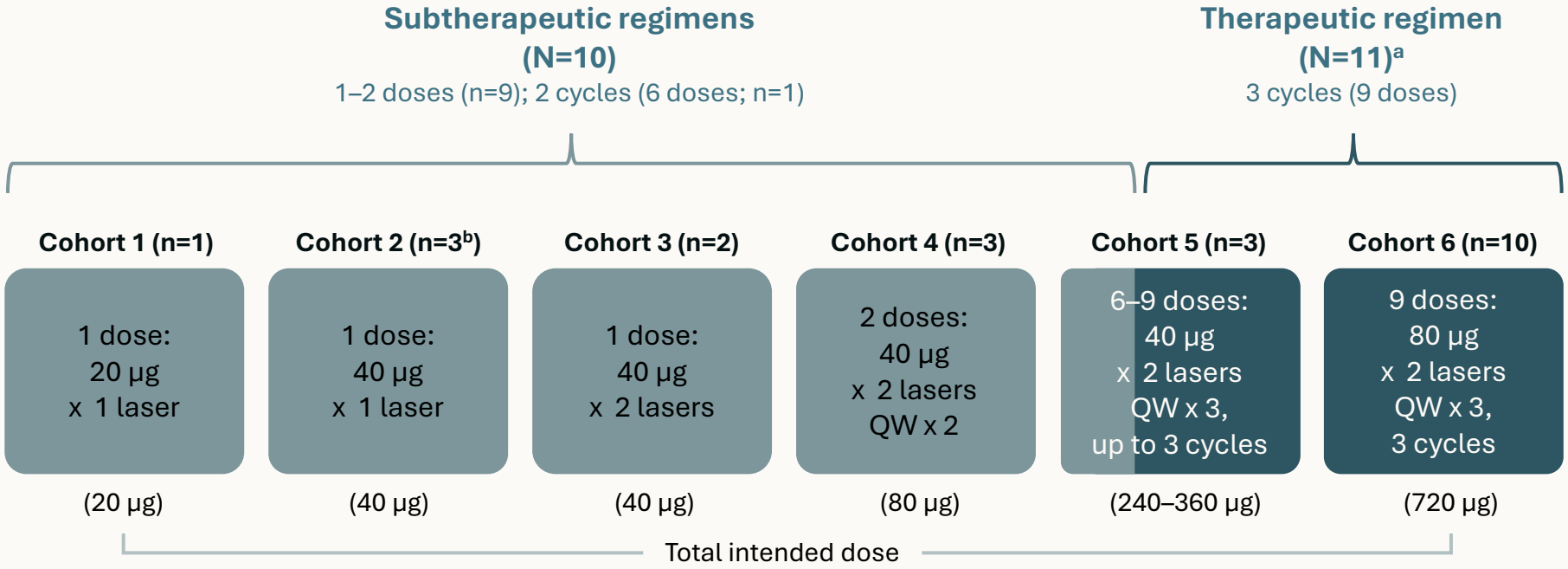


IP, intraperitoneal; **IV**, intravenous; **NIR**, near-infrared (light).

Phase 2 trial of bel-sar for choroidal melanoma: Open-label, dose-escalation with suprachoroidal administration

Trial design – 22 participants enrolled

Patient population representative of early-stage disease: Small choroidal melanoma and indeterminate lesions



Endpoints

Tumor progression
Growth in tumor height ≥0.5 mm or ≥1.5 mm in LBD relative to baseline

Visual acuity loss
≥15 letters decrease from baseline

Tumor thickness growth rate
Change in rate of growth of tumor thickness

Goal: To determine safety, optimal dose and therapeutic regimen with suprachoroidal administration

One cycle = Doses on days 1, 8, and 15.
[a]12 patients enrolled, 1 patient who discontinued after 1 cycle due to unrelated SAEs is not included in data analysis (n=11). [b]Cohort 2: 2 participants were planned; third participant was additionally enrolled due to dose error in 1 participant.
QW, every week. ClinicalTrials.gov Identifier, NCT04417530: AU-011-202. **Data on file, Aura Biosciences.**

Baseline characteristics

All study participants

	All patients (n=22)
Female (%)	54.5
White, not Hispanic or Latino (%)	100
Subretinal fluid at screening (%)	100
Orange pigment at screening (%)	86.4
Documented growth prior to screening (%)	86.4 *(100% of therapeutic group)*
Mean age at screening (years, ± SD)	59.2 (±16.5)
Mean baseline BCVA in study eye (ETDRS letters, ± SD)	83.2 (±7.2)
Mean baseline LBD (mm, ± SD)	8.5 (±1.4)
Mean baseline tumor thickness (mm, ± SD)	2.0 (±0.5)
Mean tumor distance to closest vision-critical structure at screening (mm, ± SD)	2.0 (±2.3)
Tumors at high risk for vision loss (%)[a]	73% *(80% [8/10] of therapeutic group)*

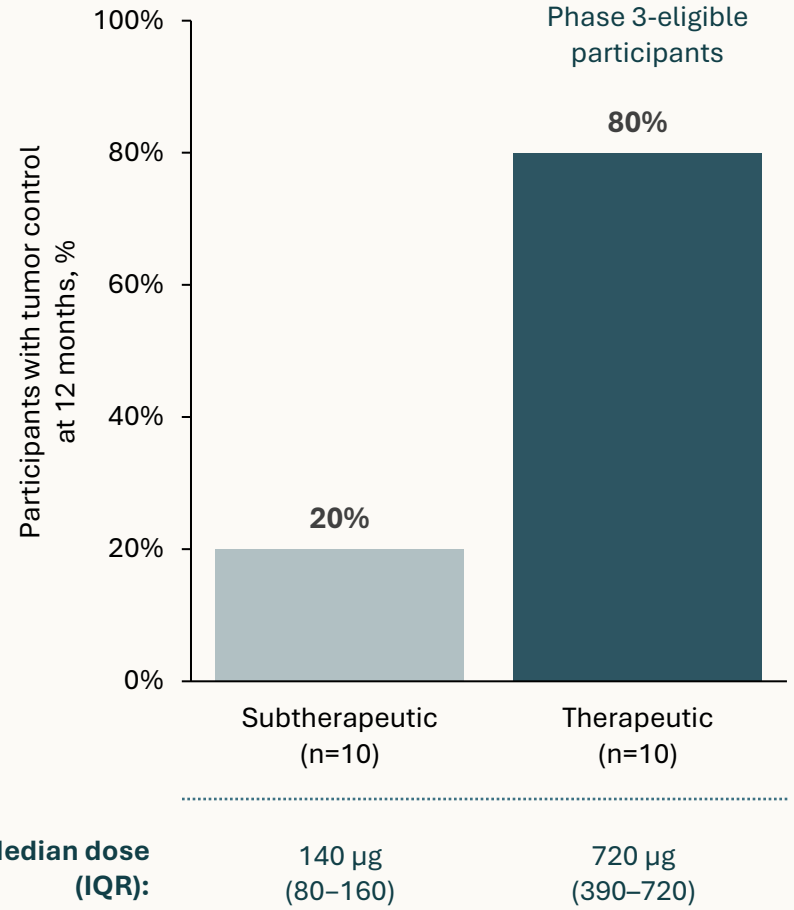
[a]High risk for vision loss defined as tumor edge within either 3 mm of foveal center or 3 mm of optic disc edge.

Data on file, Aura Biosciences.

High local complete response rate at 12 months follow-up

80% tumor control rate[a] at 12 months among the 10 phase 3-eligible patients in the 3-cycle cohorts

High tumor control rates with therapeutic regimen in phase 3-eligible patients with active growth

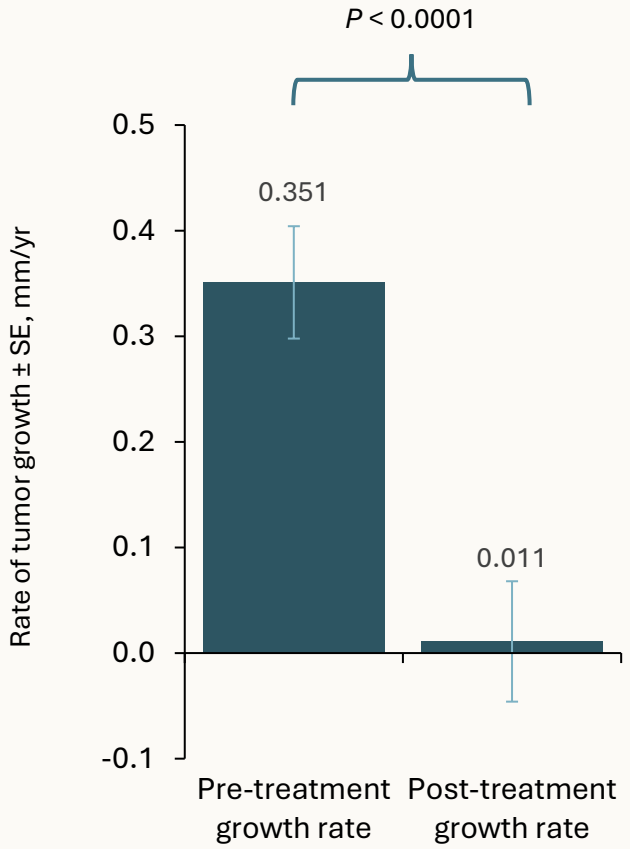


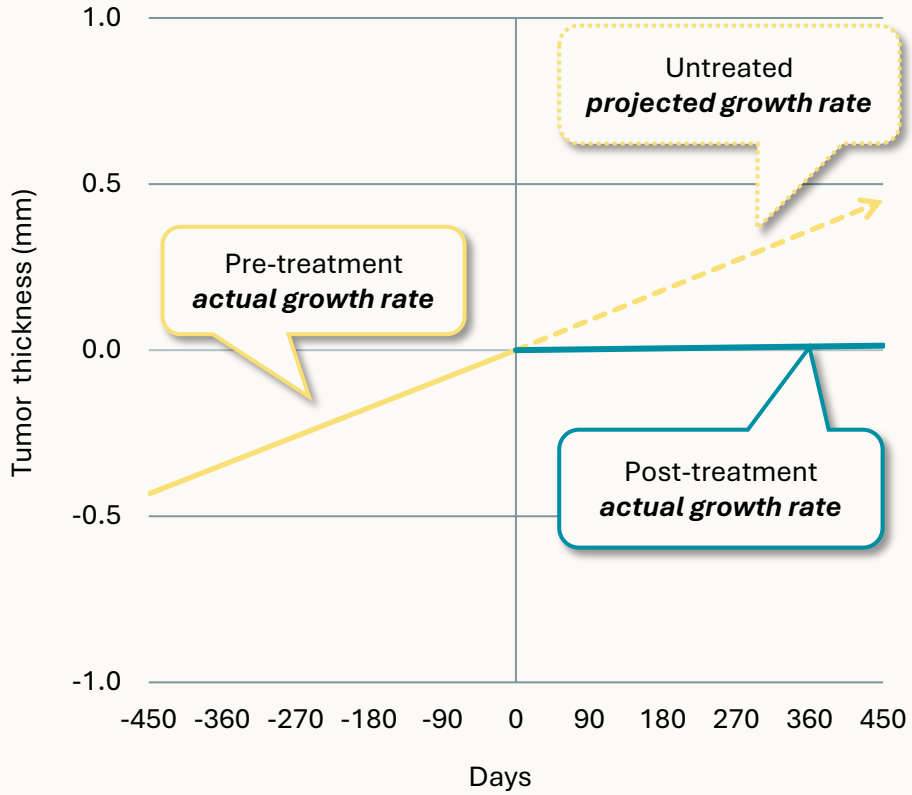
Dose/ Regimen	n	Tumor control rate, %
Subtherapeutic regimen		
≤2 cycles	10	20% (2/10)
Therapeutic regimen		
3 cycles, phase 3-eligible[b]	10	80% (8/10)

[a]Local complete response, or CR, in early-stage choroidal melanoma is described as tumor control and complete arrest of tumor growth by ocular oncologists.
[b]One participant with circumpapillary tumor that did not meet phase 3 criteria is not included.
IQR, interquartile range. ClinicalTrials.gov Identifier, NCT04417530: AU-011-202. **Data on file, Aura Biosciences.**

In phase 3-eligible patients, the 3-cycle regimen resulted in cessation of growth among responders (N=8)

Rate of tumor growth with bel-sar treatment



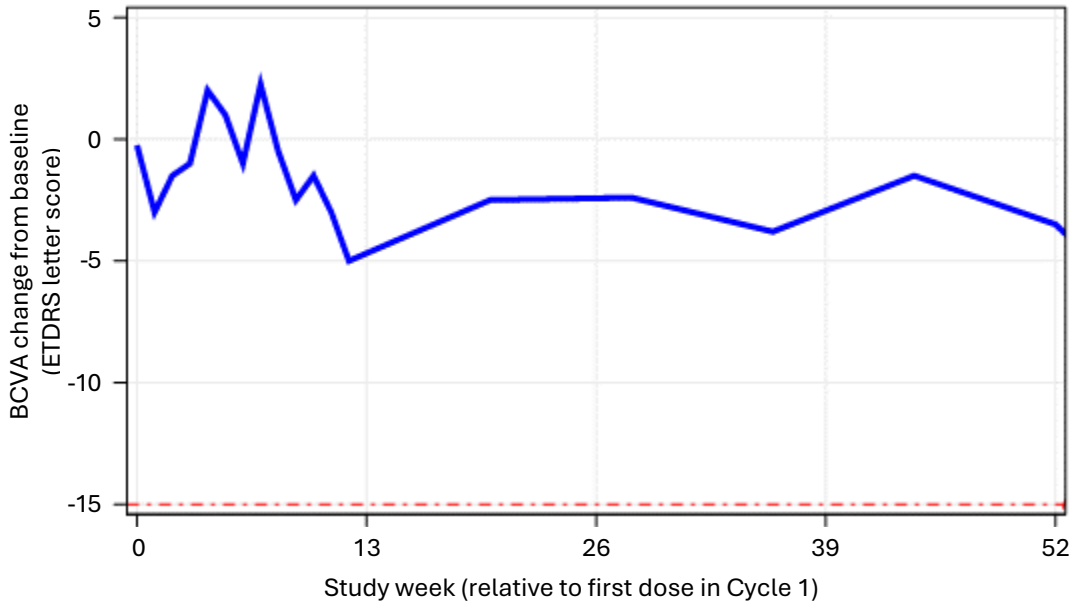


Tumor thickness growth rates/slopes estimated using Mixed Models for Repeat Measures (MMRM); random intercept and slope model for Historical and Study periods. ClinicalTrials.gov Identifier, NCT04417530: AU-011-202. **Data on file, Aura Biosciences.**

Visual acuity was preserved in 90% of phase 3-eligible patients receiving a bel-sar therapeutic regimen

- 80% were at high risk of vision loss with tumors < 3 mm to the fovea or optic nerve
- 90% visual acuity preservation supports the potential for bel-sar to be a front-line therapy for early-stage disease

Median change in BCVA in phase 3-eligible participants with therapeutic regimen (N=10)[a]



- Vision preservation in 9/10 participants
- Loss of 18 letters in one patient with progression of preexisting juxtafoveal fluid under fovea

Populations	Patients (n)	Vision failures[b] (n)	Vision preservation rate (%)
All dose cohorts			
All treated patients	22	1	95%
Subtherapeutic			
≤2 cycles	10	0	100%
Therapeutic			
3 cycles and phase 3-eligible[a]	10	1	90%

[a]One participant with circumpapillary tumor that did not meet phase 3 criteria is not included. [b]Vision acuity loss defined as ≥15 letters decrease from baseline in ETDRS BCVA letter score.
ClinicalTrials.gov Identifier, NCT04417530: AU-011-202. **Data on file, Aura Biosciences.**

Bel-sar treatment had a favorable safety profile

- No posterior inflammation
- No treatment-related SAEs
- No grade 3–5 treatment-related AEs

Phase 2 safety outcomes (bel-sar/laser-related)

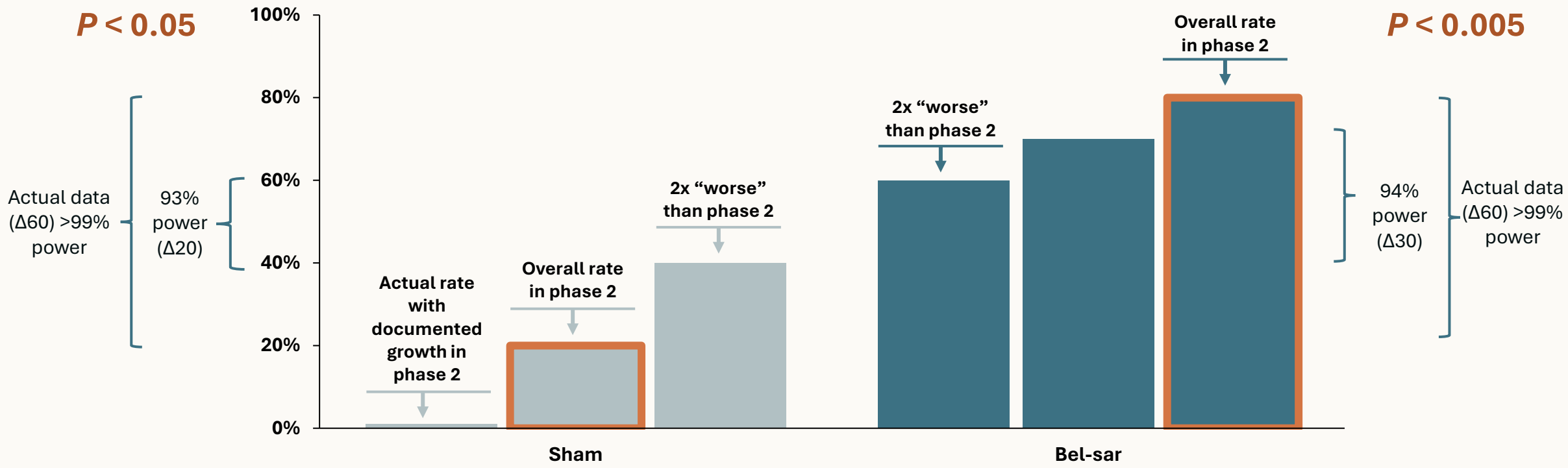
	All treated participants (n=22)*			
Drug/laser-related adverse events	**Grade I**	**Grade II**	**Grade III-V**	**Total**
Anterior chamber inflammation**	4 (18.2%)	0	0	4 (18.2%)
Anterior chamber cell**	2 (9.1%)	0	0	2 (9.1%)
Eye pain	2 (9.1%)	0	0	2 (9.1%)
Anisocoria	1 (4.5%)	0	0	1 (4.5%)
Conjunctival edema	1 (4.5%)	0	0	1 (4.5%)
Cystoid macular edema	1 (4.5%)	0	0	1 (4.5%)
Pupillary reflex impaired	1 (4.5%)	0	0	1 (4.5%)
Salivary gland enlargement	0	1 (4.5%)	0	1 (4.5%)

***Median duration 6 days (IQR: 3–10 days); All resolved with no or minimal treatment; If topical steroids given, median treatment duration 6 days*

* Table presents participants with AEs related to bel-sar or laser by severity and overall; participants with >1 AE are counted in the highest severity group.
ClinicalTrials.gov Identifier: NCT04417530; AU-011-202. **Data on file, Aura Biosciences.**

Phase 2 data support phase 3 assumptions

Robustness analysis of tumor control rates



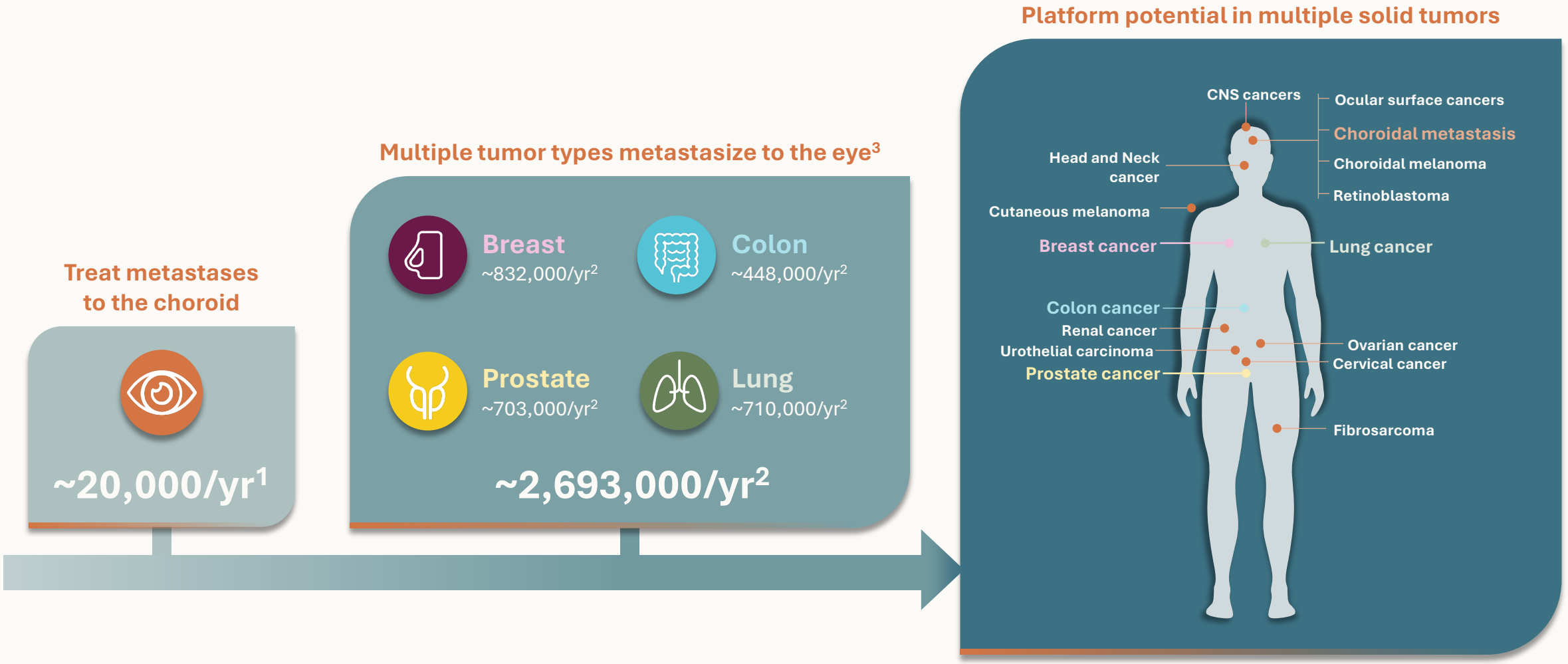
Phase 3 trial design

Same dose, regimen, route of administration, range of tumor sizes, and reading center as phase 2 trial

- Similar population to phase 2 participants receiving the therapeutic regimen
- Enriching for early documented growth; phase 3 randomization stratified by growth rate

ClinicalTrials.gov Identifier: NCT06007690; AU-011-301.

Metastases to the choroid: Evaluating metastases from multiple tumor types may provide valuable insights into bel-sar's utility in multiple solid tumors



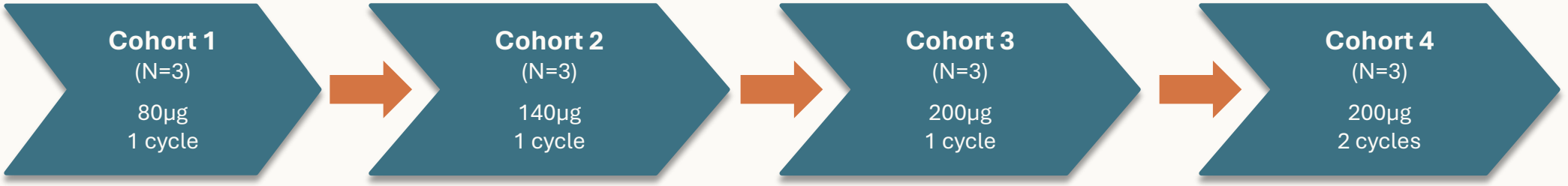
US/EU incidence.

1. Epidemiology analysis for choroidal melanoma and choroidal metastasis by ClearView Healthcare Partners and Putnam. **2.** IARC Cancer Today. GLOBOCAN 2022 (version 1.1). Available at: Cancer Today. Accessed May 6, 2025.
3. Mathis T et al. *Prog Ret Eye Res*. 2019;68:144-176.

CNS, central nervous system.

Metastases to the choroid: Study expanded to include patients with *any systemic solid tumor*

Study design (n=12)[a,b]



Study objectives

- Safety/dose-limiting toxicity
- Efficacy
  - Tumor shrinkage
  - Vision preservation/improvement

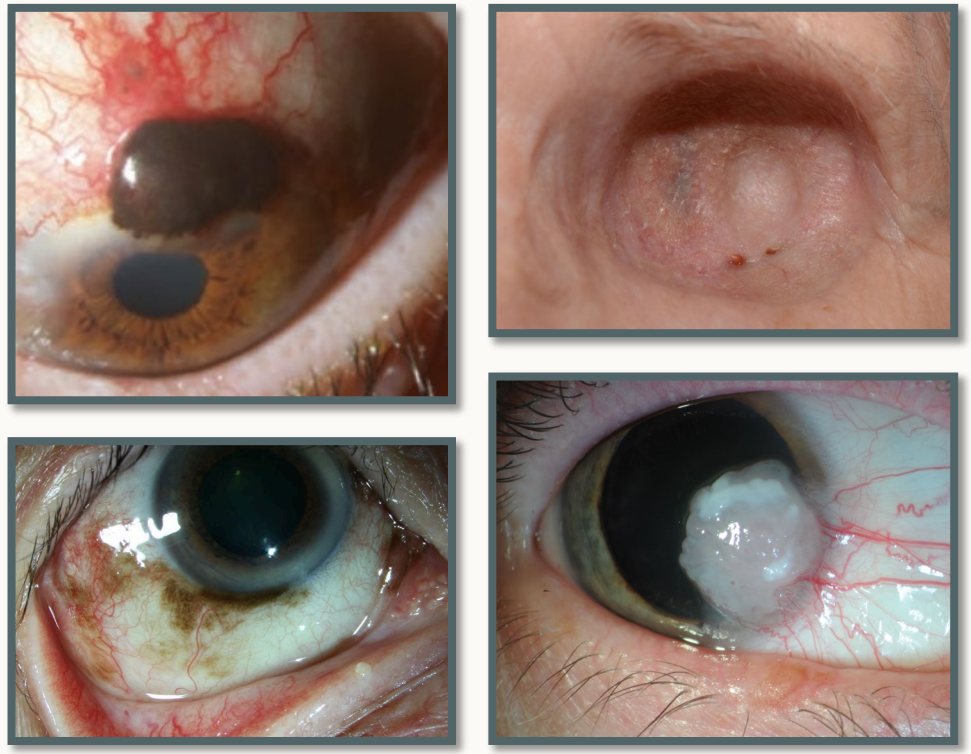
Study population

- One or multiple choroidal metastases in one or both eyes
- **Any systemic solid tumor** *(previously breast or lung only)*
- No changes in concurrent systemic medications planned

- **Multiple sites activated**
- Primary endpoint at one-month post-treatment; possibility to see tumor shrinkage and vision preservation/improvement

[a] 3+3 Design. Each cohort to have a minimum of 3 and a maximum of 6 patients.
[b] Simplified schema of study design.

Cancers of the ocular surface: Planned phase 1 safety and feasibility study with histopathologic evaluation



~30,000	Conjunctival melanoma & other melanocytic tumors (PAM)[1–5]
~5,000	Conjunctival squamous cell carcinoma/OSSN[1–5]

Treatment[6,7]

- Surgery/excision
- Neoadjuvant and/or adjuvant local chemotherapy
  - No drugs specifically approved for conjunctival tumors
- Exenteration (removal of eye and entire orbital contents)
- High recurrence rate

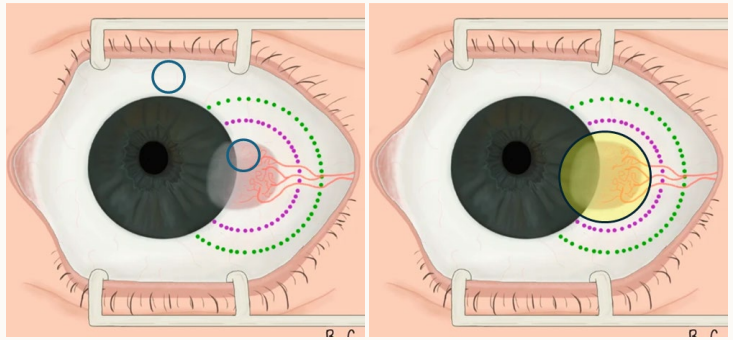
Mortality & morbidity[6,7]

- Mortality: ~25% (for conjunctival melanoma) despite maximal treatment
- Morbidity: ocular irritation/pain, dry eye, vision loss, loss of eye

1. Yu G-P et al. *Am J Ophthalmol*. 2003;135(6):800-6. **2.** Triay E et al. *Br J Ophthalmol*. 2009;93(11):1524-8. **3.** Newton R et al. *Lancet*. 1996;347(9013):1450-1. **4.** Dalvin LA. *Br J Ophthalmol*. 2018;102(12):1728-1734. **5.** Sun EC et al. *Cancer Epidemiol Biomarkers Prev*. 1997;6(2):73-7. **6.** Vora et al. *Surv Ophthalmol*. 2017;62(1):26-42. **7.** Alvarez et al. *BMJ Open Ophthalmol*. 2021;6(1):e000842.
PAM, primary acquired melanosis; **OSSN**, ocular surface squamous neoplasia.

Proof-of-concept phase 1 study of bel-sar for ocular surface tumors

Assess safety, feasibility, and histopathologic response

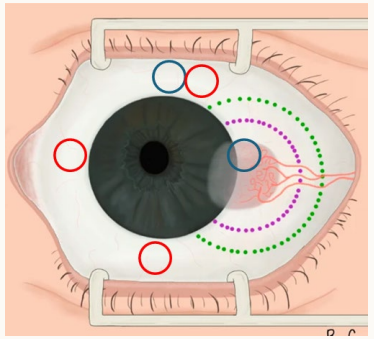


Day 1

IMAGE:
- Measure tumor

BIOPSY:
- Main tumor
- Adjacent flat tumor

TREATMENT #1:
- Inject bel-sar intratumorally
- Light activate only over main tumor



Day 15

IMAGE:
- Measure tumor

SoC EXCISION:
- Main tumor
- Map biopsies near previous biopsy sites

SoC, standard-of-care.