Nasdaq: BCTX, BCTXW
TSX: BCT

BriaCell

INVESTOR PRESENTATION

January 2024

Developing Novel Therapeutics to Destroy Cancer

Forward Looking Statements

BriaCell Therapeutics Corp. ("**BriaCell**")

This presentation is for informational purposes only and shall not constitute an offer to sell or the solicitation of an offer to sell or the solicitation of an offer to buy any securities of BriaCell Therapeutics Corp. (the "Company") nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to the registration or qualification under the securities laws of any such jurisdiction. The Company makes certain filings with the Canadian securities regulatory authorities and the U.S. Securities and Exchange Commission (the "SEC"), all of which are available under our profiles on SEDAR at www.sedar.com and on EDGAR at www.sec.gov. For a more complete discussion of the risk factors affecting our business, please refer to these filings.

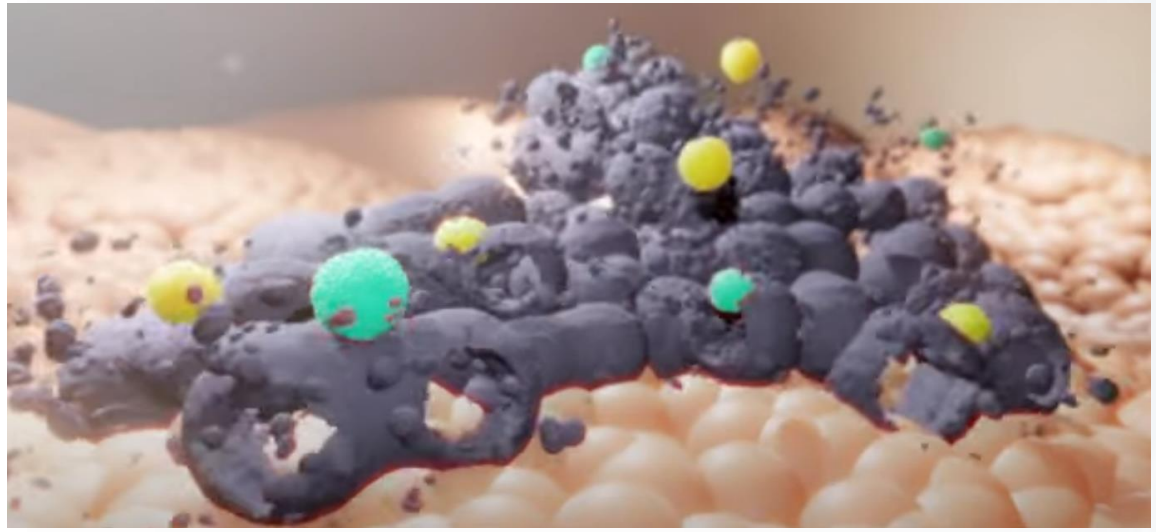
Our public communications, including this presentation, and SEDAR and SEC filings, may contain statements related to future, not past, events. These forward-looking statements are based upon current beliefs and expectations of the Company's management and are subject to significant risks and uncertainties. These forward-looking statements often, but not always, may be identified by the use of words such as "believes," "estimates," "anticipates," "targets," "expects," "plans," "projects," "intends," "predicts," "may," "could," "might," "will," "should," "approximately," "potential" or, in each case, their negative or other variations thereon or comparable terminology, although not all forward-looking statements contain these words. If underlying assumptions prove inaccurate or risks or uncertainties materialize, actual results may differ materially from those set forth in the forward-looking statements.

These forward-looking statements appear in a number of places throughout this presentation and include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, our reliance on third parties to carry out a large portion of our business; the possibility that pre-clinical and initial clinical trials will not necessarily be predictive of future results; our ability to obtain additional capital to continue our operations; our reliance on key personal; our success in completing the development of our products, commercializing our products or generating significant revenues; our ability to successfully develop, maintain and protect our proprietary products and technologies; and potential difficulties recruiting or retaining patients in our ongoing and planned clinical trials if patients are affected by the virus or are fearful of visiting or traveling to our clinical trial sites because of the outbreak of COVID-19.

By their nature, forward-looking statements involve risks and uncertainties because they relate to events, competitive dynamics, and healthcare, regulatory and scientific developments and depend on the economic circumstances that may or may not occur in the future or may occur on longer or shorter timelines than anticipated or not at all. Although we believe that we have a reasonable basis for each forward-looking statement contained in this presentation, we caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity, and the development of the industry in which we operate may differ materially from the forward looking statements contained in this presentation.

Our Mission

Develop novel immunotherapies to fight cancer and improve patients' lives



Capitalization Structure*

Stock Symbols:	Nasdaq: BCTX, BCTXW TSX: BCT
Share Price:	US$5.39
Shares Outstanding:	16.0M
Market Cap:	US$86M
Options (US$6.19 WAEP):	2.1M
Warrants (US$5.76 WAEP):	8.1M
Website:	BriaCell.com

(*) as of January 5, 2024

BriaCell Highlights

- A clinical stage immuno-oncology company that is developing an entirely new class of targeted immunotherapies to transform cancer care
- Lead drug candidate Bria-IMT™
  - ***Pivotal Phase 3 study in advanced metastatic breast cancer (over 40K US deaths/year)***
  - Awarded Fast Track designation by FDA
  - Safety & efficacy data similar or superior to other approved breast cancer drugs when at a comparable stage of development
  - Single agent and combination check point inhibitor (+ CPI) activity
    - Activity in CPI and antibody-drug conjugate (ADC) resistant patients
    - Activity in patients with CNS metastases
- Bria-OTS™ "*Off-The-Shelf Personalized*" platform technology
  - Phase 1/2 IND open, commencing 1H2024
  - Robust pipeline includes novel cellular immunotherapies for breast cancer, prostate cancer, lung cancer and melanoma
  - National Cancer Institute SBIR award

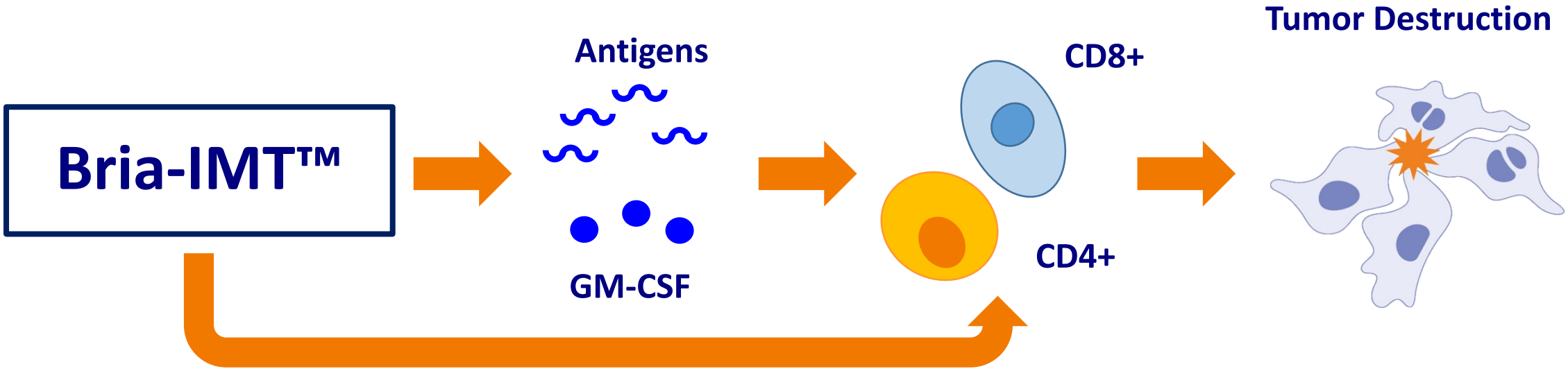
Novel targeted immunotherapy platform; Pivotal Phase 3 study underway

BriaCell Pipeline

Therapeutic	Indication	Preclinical	Phase 1	Phase 2	Phase 3	Upcoming Milestones
Bria-IMT™ CPI Combination	Advanced Metastatic Breast Cancer (Fast Track)	Pivotal Phase 3 / Ongoing Phase 2				Interim Analysis 2H2025 Safety & Efficacy Data 1H2024
Bria-IMT™ CPI Combination	Early Phase Breast Cancer	Investigator Initiated				Weill-Cornell Med Center Clinical Data 2024
Bia-OTS™	Breast Cancer					Phase 1/2 Initiation 1H2024
Bria-Pros™	Prostate Cancer					IND Preparation 1H2024
Bria-Lung™	Non-Small Cell Lung Cancer					IND Preparation 1H2024
Bria-Mel™	Melanoma					IND Preparation 1H2024

Bria-IMT™: BriaCell Targeted Immunotherapy

- Bria-IMT™ - a cell based, patented, targeted immunotherapy
- Derived from a well characterized breast cancer cell line
- Expresses tumor antigens and GM-CSF to activate specific cancer fighting CD4+ and CD8+ T cells
- Stimulates the immune system to enhance targeted killing of cancer cells



Bria-IMT™ Monotherapy Clinical Data

Evaluable Patients	HLA Match	Disease Control (CR, PR, and SD)	Disease Control in Immune Responders (DTH)
N=5	≥ 2	80% (4/5)	100% (4/4)
N=15	≥ 1	47% (7/15)	58% (7/13)
N=18	Any	50% (9/18)	60% (9/15)

- 27 total patients treated with the Bria-IMT™ monotherapy, 18 evaluable
- Presence of HLA-type matching correlates with response to Bria-IMT™
- Immune response measured by delayed-type hypersensitivity (DTH) to Bria-IMT™ correlates with disease control
- Tolerability excellent with no dose-limiting toxicities
- Clinical benefit demonstrated: 1 PR and 8 SD in 15 evaluable immune responders

Data on file
CR = Complete Response, PR = Partial Response and SD = Stable Disease
DTH = Delayed-type Hypersensitivity

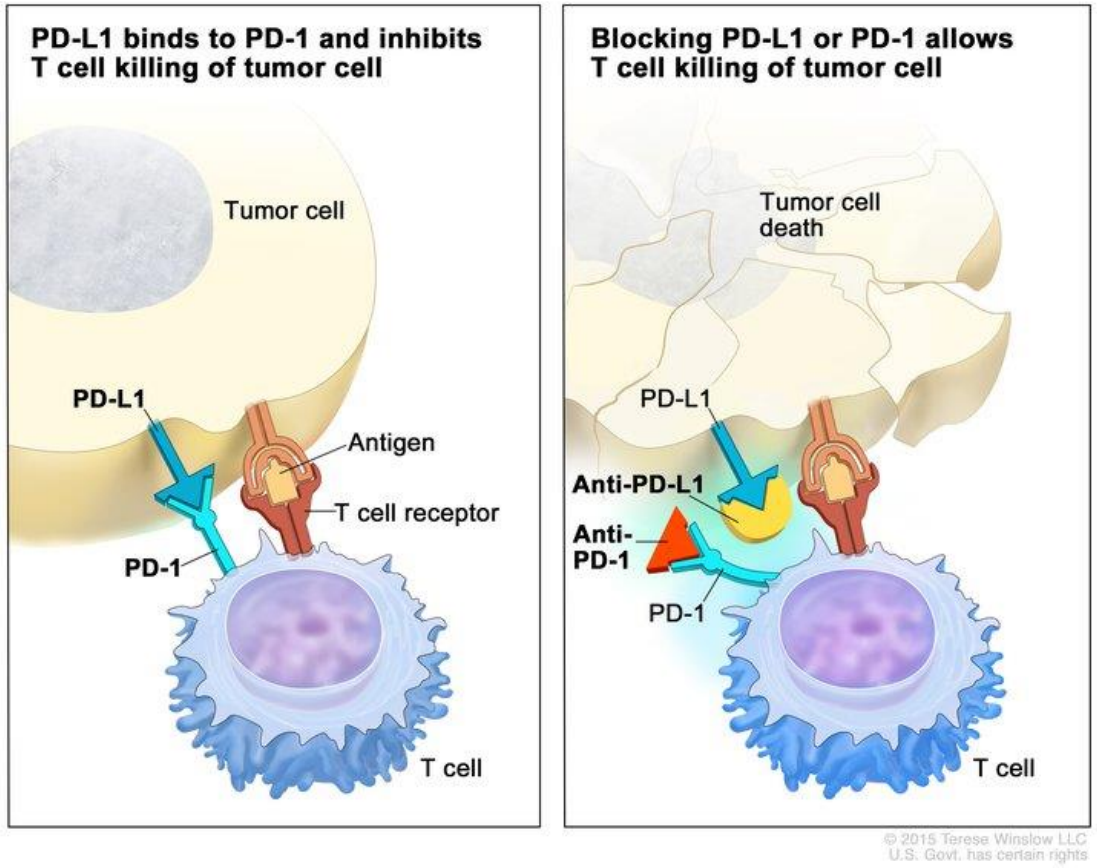
Bria-IMT™ Combination with CPIs

How Do CPIs Work?

- PD-L1 expression protects cancer cells from tumor antigen driven T-cell attack
- PD-1 and PD-L1 inhibitors, also known as CPIs, neutralize this immune suppression

Why did we combine Bria-IMT™ with CPIs ?

- >90% of patients noted to express PD-L1 in our studies
- Potential synergy between Bria-IMT™ activated immune system and CPI's unblocking of immune system
- BriaCell's hypothesis: Combining CPIs with Bria-IMT™ "releases the brake and steps on the gas" providing powerful anti-tumor activity



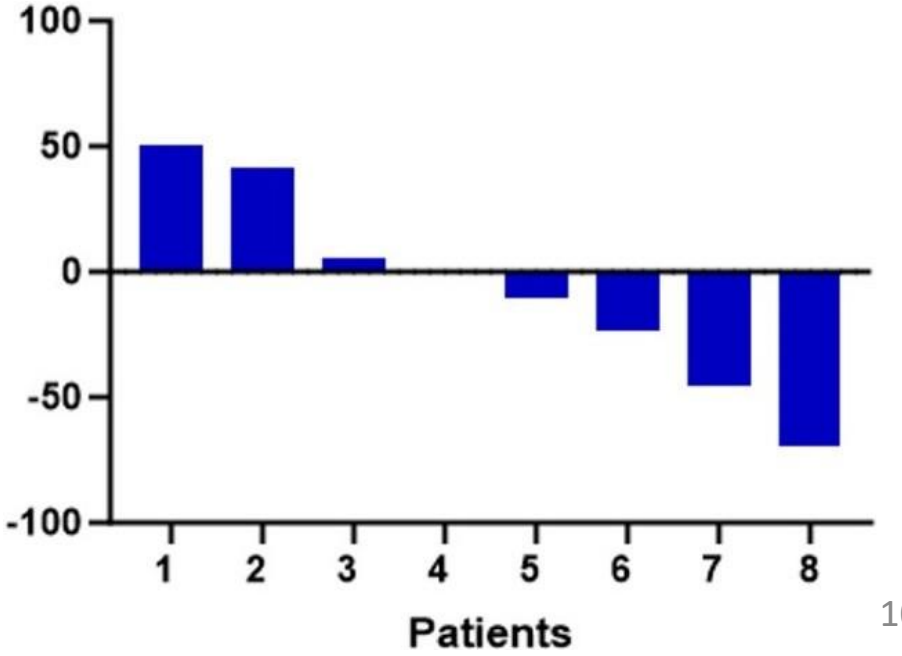
Bria-IMT™ in Combination with CPI

Phase 2 Clinical Data Summary with CPIs

- Data available on 48 patients treated with Bria-IMT™ + CPI (pembrolizumab or retifanlimab)
- All patients were very heavily pre-treated with a median of 6 prior systemic therapy regimens (i.e. chemotherapy), further underscoring BriaCell's positive patient outcomes
- Tolerability excellent with no dose-limiting toxicities
- Clinical benefit was seen in all patient subtypes, including those with HR+ and TNBC disease
- Phase 3 formulation selected → robust efficacy

Biomarkers	N (%)	Patients with Evaluable Outcome	ORR (CR, PR) in Evaluable Patients	CBR (CR, PR, SD) in Evaluable Patients
HR+/HER2-	20 (42%)	9	2	6
Triple Negative	11 (23%)	4	0	1
HER2+	1 (2%)	1	0	0
Unknown	16 (33%)	3	0	1
Total	48	17	2 (12%)	8 (47%)

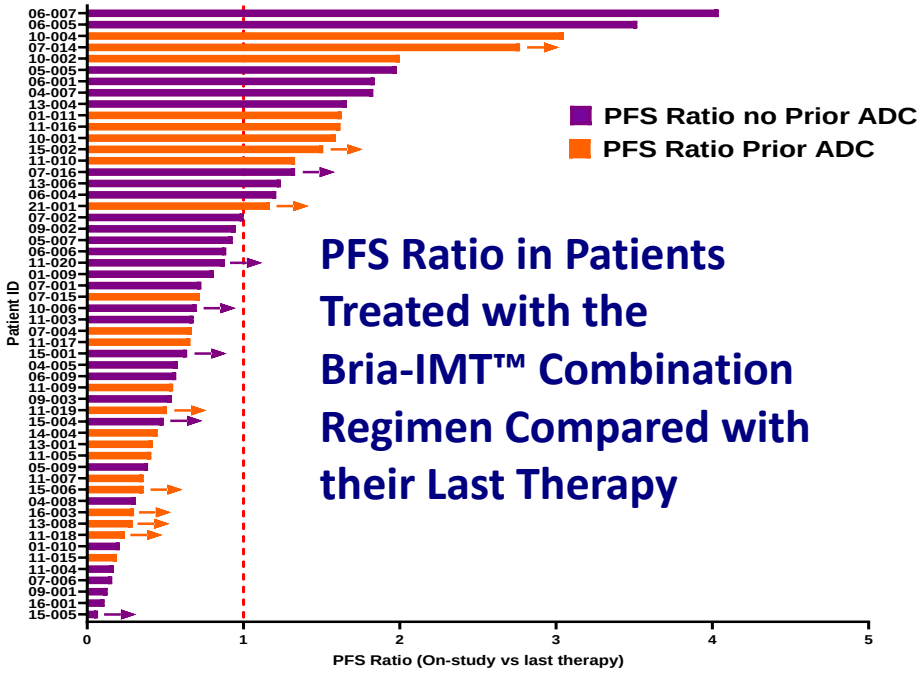
Best Change from Baseline in Tumor Diameter for Evaluable Patients Treated with the Phase 3 Formulation

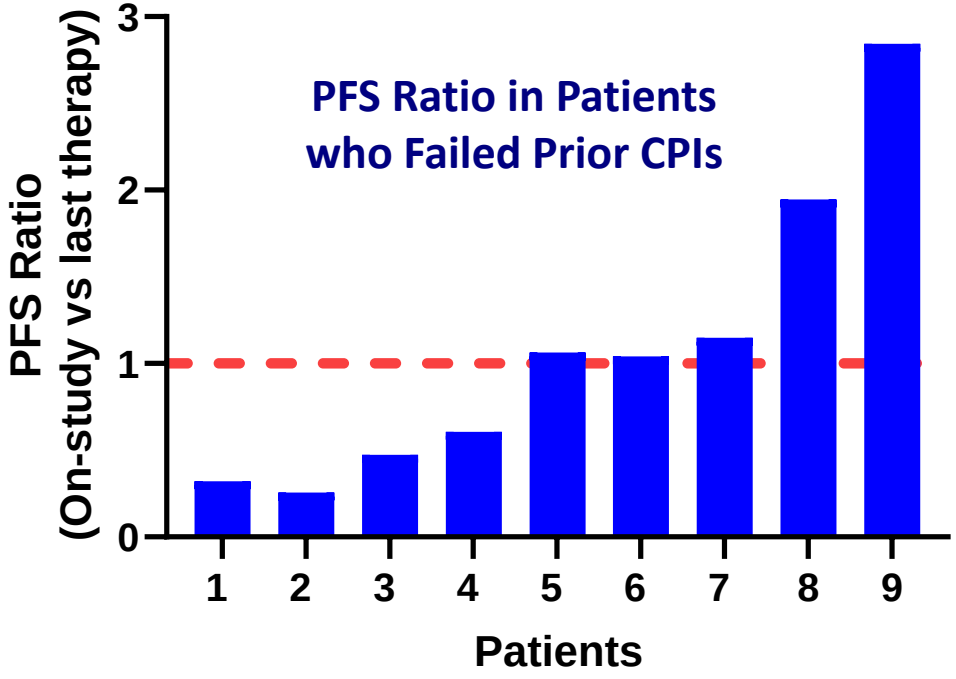


ORR – Overall Response Rate; CR = Complete Response; PR = Partial Response; SD = Stable Disease; CDR = Clinical Benefit Rate
HR=Hormone receptor, HER2 = Human epidermal Growth factor receptor 2, TNBC = Triple negative breast cancer
San Antonio Breast Cancer Symposium, 2023

Phase 2 Bria-IMT™ + CPI Clinical Data

- Progression-free survival (PFS) on the combination regimen was compared with each patient's last therapy regimen
  - ➢ In advanced cancer, PFS generally decreases with each subsequent round of therapy
- A substantial proportion of patients treated with Bria-IMT™ + CPI had similar or better PFS than their last therapy regimen suggesting clinical efficacy and tolerability
- **Positive results include patients who had previously failed treatment with a CPI or with an antibody-drug conjugate (ADC) suggesting clinical efficacy in CPI and ADC resistant patients**





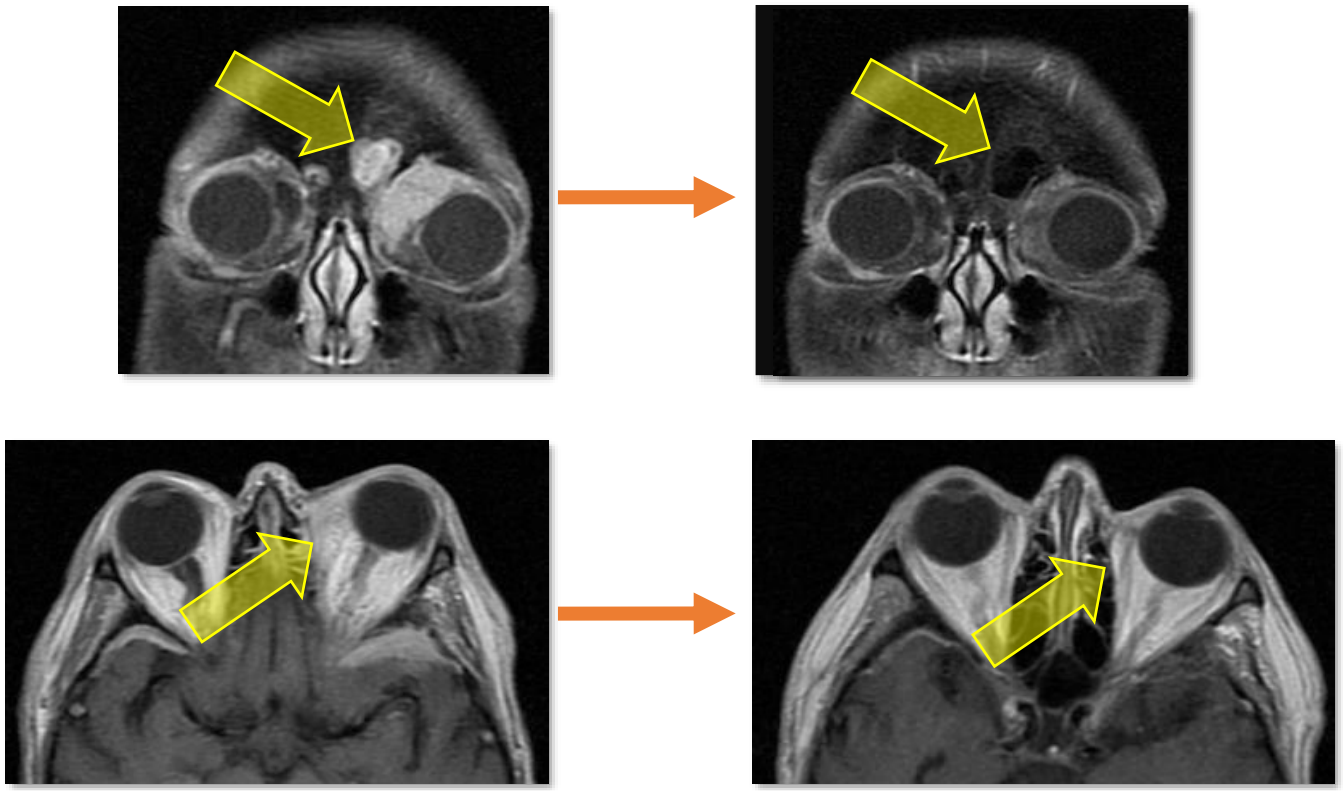
Bria-IMT™ + CPI Remarkable CNS Responders

Case #1

- Patient failed 13 prior regimens
- Started therapy with breast cancer metastases behind the left eye (orbit), on the outside lining of the brain (dura mater) and in the adrenal gland
- With 6 months of therapy the orbital tumor completely resolved and she was classified as a partial responder overall

Baseline Scans

Six months On Treatment Scans

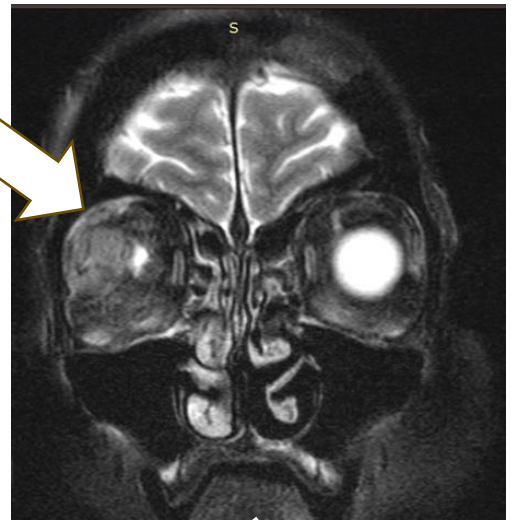


Bria-IMT™ + CPI Remarkable CNS Responders

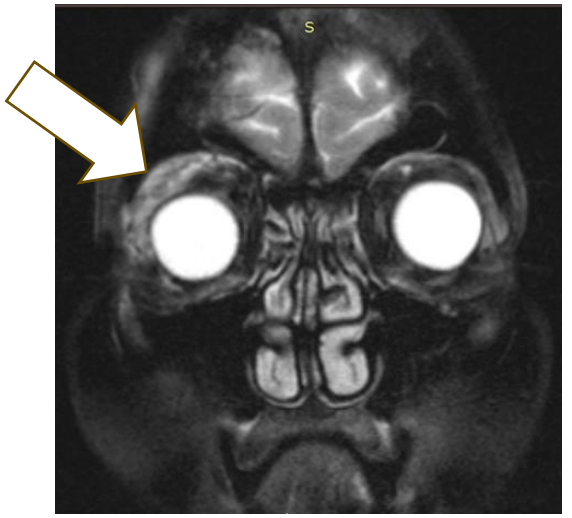
Case #2

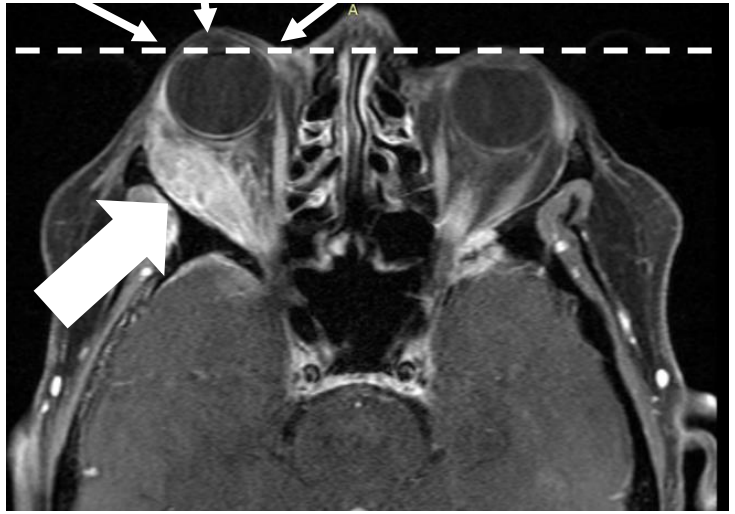
- Patient failed 7 prior regimens including ADC Enhertu®
- Extensive proptosis (eye bulging) with tumor displacing eye on imaging
- Remarkable improvement of proptosis
- Significant tumor reduction along with improvement in eye pain after only 3 cycles of treatment

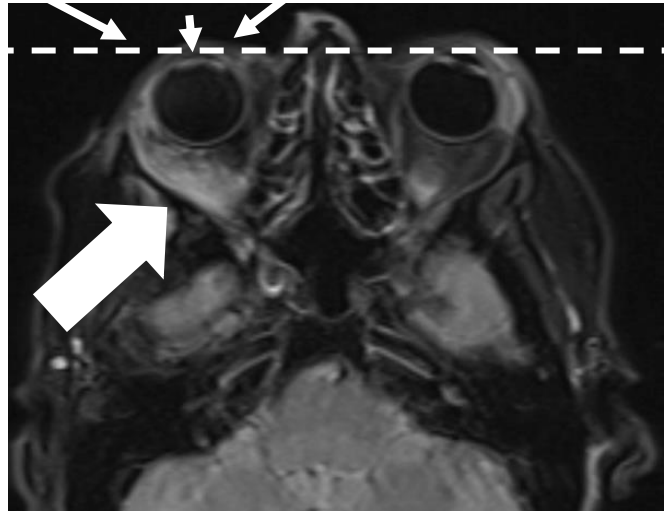
Pre-treatment



Post-treatment





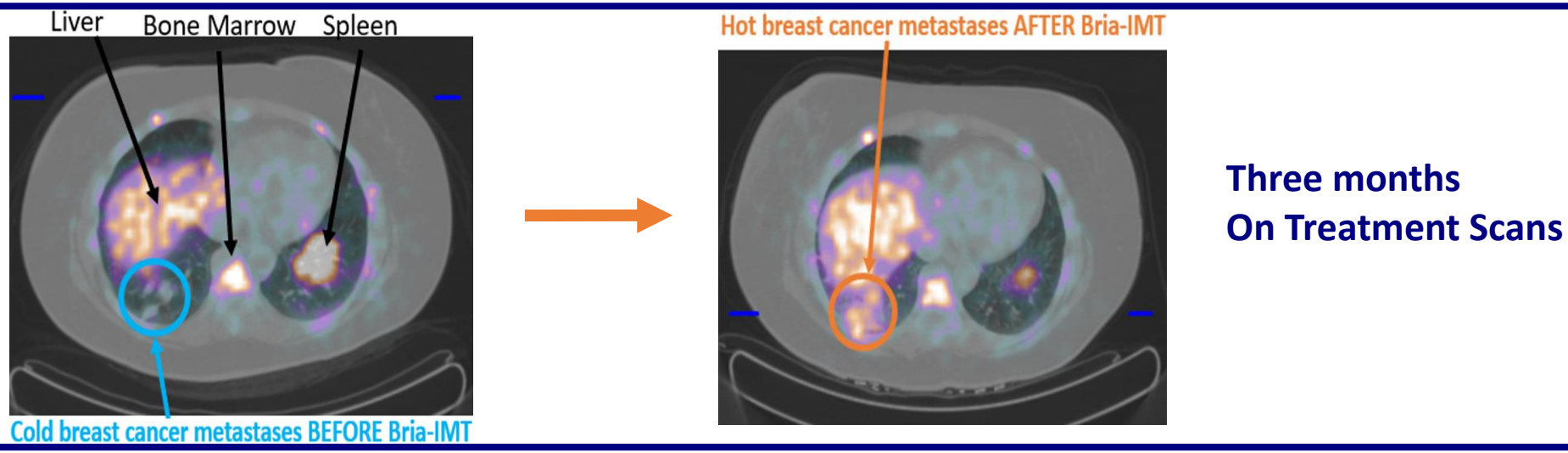


Bria-IMT™ + CPI T-Cell Responder

- CD8+ ImmunoPET study used to evaluate T cell infiltration into tumors (TILs)
- Bria-IMT™ combination therapy induced CD8+ T cell infiltration into “cold” metastatic breast cancer tumors turning the tumors “hot” suggesting immune system activation

Pre-Treatment **Post-Treatment with Bria-IMT™**

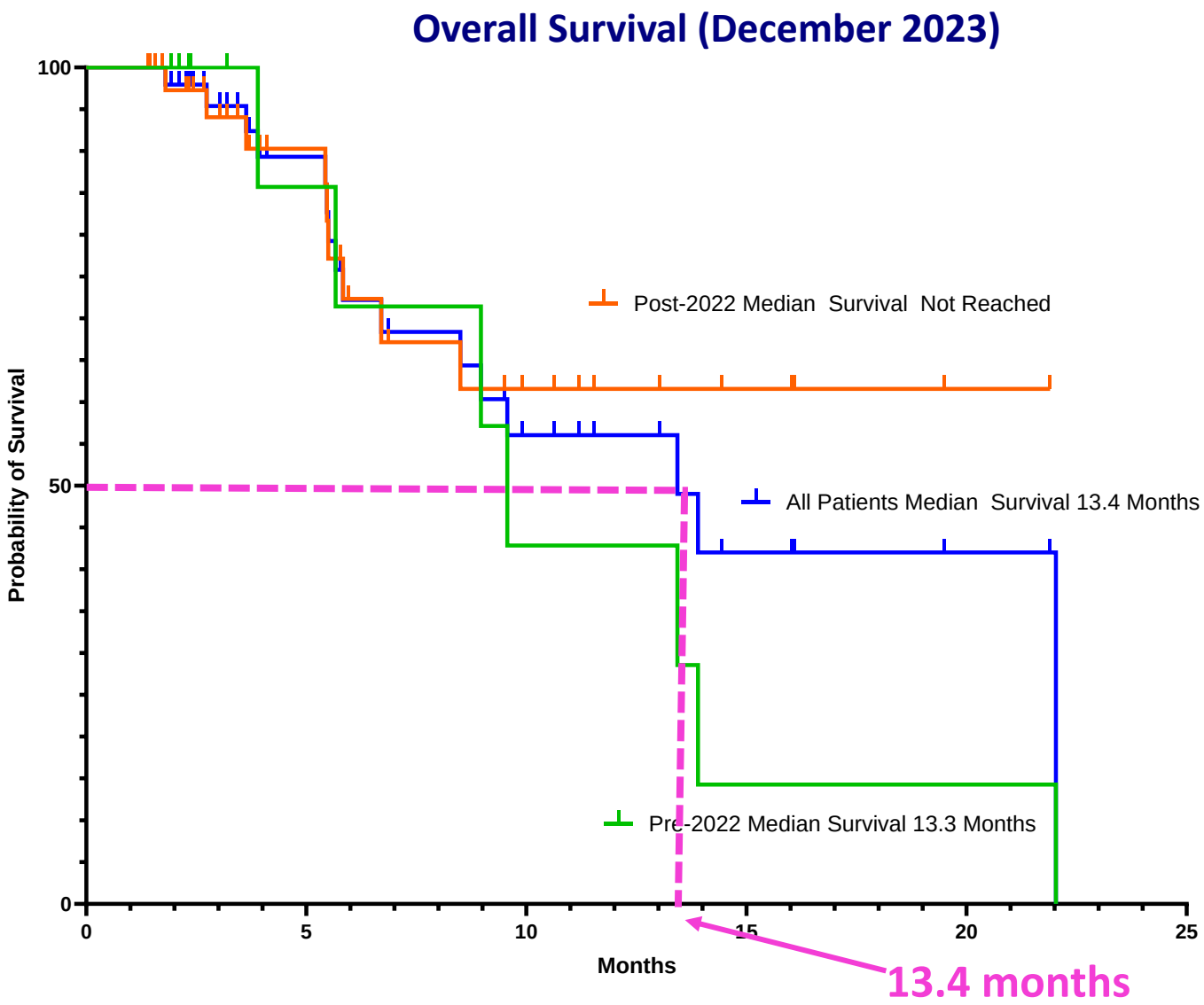
Baseline Scans



Three months On Treatment Scans

Bria-IMT™ + CPI Overall Survival in Advanced Breast Cancer

- Total of 54 enrolled
  - 11 patients in combination with pembrolizumab
  - 44 patients in combination with retifanlimab
    - with one patient cross over from the pembrolizumab to the retifanlimab study
- Overall survival (OS) of 13.4 months with Bria-IMT™ + CPI
- OS in similar metastatic breast cancer patients who have failed 2+ prior therapy attempts is 6.7-9.8 months*
- 32 of 42 patients with available data and treated since 2022 are still alive suggesting a strong survival benefit for BriaCell's combination regimen
- No dose limiting toxicities to date



*Cortes J, et al. Annals of Oncology 2018; Kazmi S, et al. Breast Cancer Res Treat. 2020 Aug 17; O'Shaughnessy J et al. Breast Cancer Res Treat. 2022; Tripathy D, et al. JAMA Oncol. 2022.

Unprecedented Survival & Clinical Benefit in ADC Resistant Patients

- In the subset of ADC resistant patients (n=-23), OS data of BriaCell's combination regimen exceeded that of similar studies*
- Progression-free survival (PFS) data was similar or better than last regimen in 40% of the patients highlighting clinical efficacy
- Clinical benefit rate of 40% was observed in evaluable patients further indicating clinical benefit
- Patients were heavily pre-treated with a mean of 6 prior treatment regimens
- Similar observations in patients resistant to prior CPI therapy (n=9)

* Laura Huppert et al., Multicenter retrospective cohort study of the sequential use of the antibody-drug conjugates (ADCs) trastuzumab deruxtecan (T-DXd) and sacituzumab govitecan (SG) in patients with HER2-low metastatic breast cancer (MBC) (PS08-04) - SABCS 2023

* François Poumeaud et al., Efficacy of Sacituzumab-Govitecan (SG) post Trastuzumab-deruxtecan (T-DXd) and vice versa for HER2low advanced or metastatic breast cancer (MBC): a French multicentre retrospective study. (PS08-02) - SABCS 2023

Impressive 71% CNS Response Rate in Advanced BC Patients

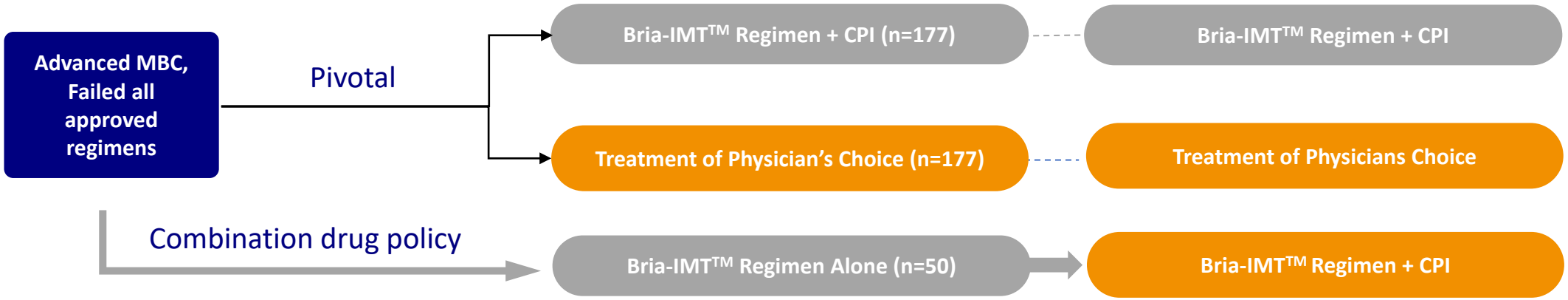
- 71% (5/7) intracranial objective response rate (iORR) in BriaCell patients with CNS metastases support clinical efficacy of Bria-IMT™ alone and in combination with CPI
- Tumor reductions (≥30%) observed in heavily pretreated patients highlight potential clinical benefit of Bria-IMT™ in managing CNS metastases
- CNS tumor reductions (across all subtypes) vs unsuccessful treatment of CNS metastases*
- iORR in comparable patients is very poor*

* Niwinska A, Pogoda K, Jagiello-Gruszfeld A, Duchnowska R. Intracranial Response Rate in Patients with Breast Cancer Brain Metastases after Systemic Therapy. Cancers (Basel). 2022 Feb 15;14(4):965. doi: 10.3390/cancers14040965. PMID: 35205723; PMCID: PMC8869862.

* Tripathy D, Tolaney SM, Seidman AD, Anders CK, Ibrahim N, Rugo HS, Twelves C, Diéras V, Müller V, Du Y, Currie SL, Hoch U, Tagliaferri M, Hannah AL, Cortés J; ATTAIN Investigators. Treatment With Etirinotecan Pegol for Patients With Metastatic Breast Cancer and Brain Metastases: Final Results From the Phase 3 ATTAIN Randomized Clinical Trial. JAMA Oncol. 2022 Jul 1;8(7):1047-1052. doi: 10.1001/jamaoncol.2022.0514. PMID: 35552364; PMCID: PMC9100460.

Bria-IMT™ + CPI Pivotal Phase 3 Study

- Pivotal Phase 3 study underway
- Advanced metastatic breast cancer
- ***Primary endpoint of overall survival***
  - Interim analysis with early stop for efficacy at 144 events
  - Continue through study completion if no early stop
  - Bria-IMT™ alone transitions to Bria-IMT™ + CPI if worse than SD at first assessment
- ***Positive results would result in FULL approval of Bria-IMT™ + CPI***



Analyze at 144 events. If hazard ratio (HR) is ≤ 0.6, submit BLA. If > 0.6, continue to completion with HR target of 0.7

Bria-OTS™

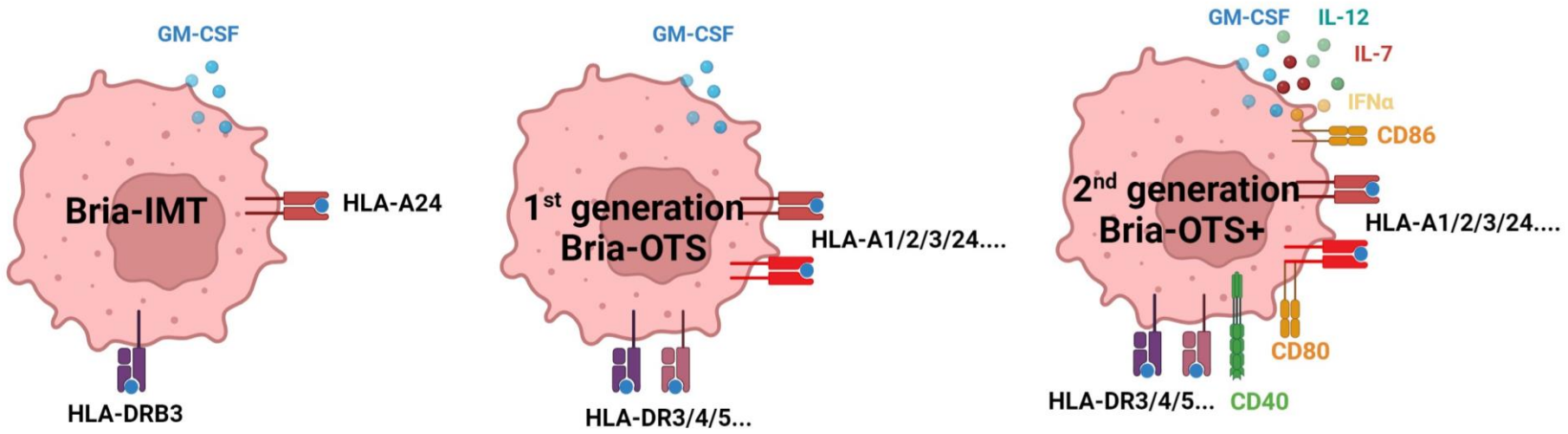
Personalized *Off-The-Shelf* Immunotherapy

- Bria-IMT™ is most effective in HLA type matched patients
- *Bria-OTS™ is engineered to express 15 unique HLA types through 4 independent cell lines*
- Provides matched treatment to greater than 99% of patients with advanced breast cancer
- Simple saliva test provides HLA type for delivery of personalized off the shelf Bria-OTS™ immunotherapy
  - Received a SBIR award from the National Cancer Institute
- **IND is open**, study planned to initiate dosing 1H2024
- Similar cell lines in development for prostate cancer, lung cancer, and melanoma including enhanced ability to activate resting (naïve) T cells

Saliva Test | **Cell-Types Identified** | **Bria-OTS™ Formulation Determined** | **Patient Treatment**

Novel Cellular Cancer Immunotherapy Platform Technology

- **Bria-OTS™ first generation: development of semi-allogeneic cells**
  - Semi-allogeneic cell lines matching >99% of the population at least at 1 HLA allele in 4 cell lines
- **Bria-OTS+™ 2nd generation for Breast Cancer**
  - Additional expression of co-stimulatory molecules and immune-modulatory cytokines
  - Improved antigen-presenting activity
  - Initiating immune response and stimulating CD4+, CD8+, NK, and NKT cells enhances potency
- **Bria-PROS+/LUNG+/MEL+: 2nd generation cell lines under development in other indications**
  - Prostate, lung, melanoma, etc.



Development Timeline and Catalysts

Anticipated Milestones	2024		2025		2026	
	H1	H2	H1	H2	H1	H2
Pivotal Phase 3 Study – Bria-IMT™ + CPI	→	→	→	→	BLA	
Bria-IMT™ + CPI – Phase 2 Study Data	→	→				
Early Breast Cancer (Investigator Initiated, Weill-Cornell)		→	→	→	→	
Bria-OTS™ (HLA-Matched bucket trial*) – Phase 1/2		→	→	→	→	

*Bucket trial will include breast cancer, prostate cancer, lung cancer and melanoma

Pivotal Phase 3 study interim analysis 2H2025
Continued Phase 2 safety and efficacy data readouts through 2024

BLA = Biologics License Application: subject to interim analysis

Experienced Management

William V. Williams, MD, FACP, President & CEO, Director

- Incyte, GlaxoSmithKline
- University of Pennsylvania

Giuseppe Del Priore, MD, MPH, Chief Medical Officer

- Cancer Treatment Centers of America
- NYU School of Medicine, New York Presbyterian

Gadi Levin, CA, MBA, CFO & Corporate Secretary

- Arthur Andersen
- University of Cape Town, Bar Ilan University

Miguel A. Lopez-Lago, PhD, Chief Scientific Officer

- Memorial Sloan-Kettering Cancer Center
- Stony Brook University, New York

Jakafi® ruxolitinib (tablets)

olumiant® (Baricitinib) Tabletten

ONE TABLET • ONCE A DAY Viread™ (tenofovir disoproxil fumarate)

Clinical Strategy Team involved in 19 previous drug approvals

Board of Directors

Jamieson Bondarenko, CFA, CMT, Chairman of the Board

- Eight Capital, Dundee Securities, Wellington West Capital Markets and HSBC Securities

Marc Lustig, MSc, MBA, Director

- L5 Capital Inc.
- Founder & CEO, Origin House (now Cresco Labs Inc.)

Vaughn Embro-Pantalony, MBA, FCPA, FCMA, CDir, ACC, Director

- Teva Novopharm Limited, Bayer Healthcare, Zeneca Pharma Inc.

Martin Schmieg, CPA, Director

- Clear Intradermal Technologies, Inc., Sirna Therapeutics, Inc., Advanced Bionics Corporation, Inc.

William V. Williams, MD, FACP, President & CEO, Director

- Incyte, GlaxoSmithKline
- University of Pennsylvania

Jane Gross, PhD, Director

- aTyr Pharma Inc., ZymoGenetics Inc. (acq. by Bristol Myers Squibb)
- UC Berkeley

Rebecca A. Taub, MD, Director

- Madrigal Pharmaceuticals, Hoffmann-La Roche Company, Bristol-Myers Squibb;
- University of Pennsylvania

Summary

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info@BriaCell.com BriaCell.com 1-888-485-6340

Thank you