celcuity

EXPANDING TREATMENT OPTIONS

Gedatolisib Program Overview & VIKTORIA-1 Phase 3 Trial Design

March 23, 2022

Forward-Looking Statements

This presentation contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 relating to our business, operations, and financial condition, including but not limited to current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, our development plans, our preclinical and clinical results and expected timing thereof, our plans to develop and commercialize gedatolisib, our first internally developed drug candidate, our plans to research, discover and develop additional product candidates, our planned wilkTORIA-1 Phase 3 clinical trial and the expected results of our upcoming VIKTORIA-1 Phase 3 clinical trials for gedatolisib, including but not limited to our planned VIKTORIA-1 Phase 3 clinical trial and the expected results of our upcoming VIKTORIA-1 Phase 3 clinical trial, including but not limited to the anticipated efficacy of gedatolisib in combination with palbociclib and fulvestrant. Words such as, but not limited to, "look forward to," "believe," "expect," "anticipate," "estimate," "Intend," "plan," "would," "should," and "could," and similar expressions or words, identify forward-looking statements. New risks and uncertainties may emerge from time to time, and it is not possible to predict all risks and uncertainties. Any forward-looking statements in this presentation are based on management's current expectations and beliefs and are subject to a number of risks, uncertainties and important factors that may cause actual events or results to differ materially from those expressed or implied by any forward-looking statements contained in this presentation, including, without limitation, risks relating to: (i) unforeseen delays in clinical trial enrollment or other activities that may affect the timing and success of our ongoing gedatolisib and CELsignia trials, (ii) the fact that preliminary data from a clinical study may not be predictive of the final results of such study or the results of other ong

Forward-looking statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. These known risks and uncertainties are described in our reports and filings with the SEC, including our Annual Report on Form 10-K for the year ended December 31, 2021. 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. 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. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.

The information in this presentation does not provide full disclosure of all material facts relating to Celcuity, its securities or the proposed offering of its securities. This presentation shall not constitute an offer to sell or the solicitation of an offer to buy any securities.

Celcuity EXPANDING TREATMENT OPTIONS

Corporate Update Overview



Key Q4 2021 Updates

- Entered into a clinical collaboration and supply agreement with Pfizer to provide palbociclib (IBRANCE©) for planned Phase 3 clinical trial evaluating gedatolisib in combination with palbociclib and fulvestrant in advanced breast cancer
- Received FDA Fast Track designation for gedatolisib in HR+/HER2- advanced breast cancer
- Presented updated Phase 1b data for gedatolisib during a Spotlight Poster-Discussion Session at the 2021 San Antonio Breast Cancer Symposium in December 2021
- Added several new leaders to our senior management team
- Finalized Phase 3 trial design for study evaluating gedatolisib in combination with palbociclib and fulvestrant in advanced breast cancer



Gedatolisib Has a Highly Differentiated Mechanism of Action

Only pan-PI3K/mTOR inhibitor known to be under active development

Gedatolisib differentially targets one of the most important and complex oncogenic pathways

- First pan-PI3K/mTOR inhibitor with low nanomolar potency that is well tolerated with manageable toxicities
- Pan-PI3K/mTOR inhibition limits cross-activation that can occur with PI3K isoform or mTOR specific drugs
- Enhances potential synergy with other pathway inhibitors

Gedatolisib vs. Approved Solid Tumor PI3Ki or mTORi IC₅₀ (nM)¹

Target	Gedatolisib ²	Alpelisib ³	Everolimus ⁴
ΡΙ3Κ-α (ΜΤ)	0.6	~4.0	-
ΡΙ3Κ-α (WT)	0.4	4.6	-
ΡΙ3Κ-β	6.0	1,156	-
ΡΙ3Κ-γ	5.4	250	-
ΡΙ3Κ-δ	6.0	290	-
mTORC1	1.6	-	~2.0
mTORC2	1.6	-	-



(1) IC50 derived from cell-free biochemical dose response analysis; (2) Venkatesan 2010 for PI3K and mTORC1 IC50 values; (3) Fritsch 2014; (4) Schuler 1997; everolimus is an mTOR inhibitor that binds with high affinity to the FK506 binding protein-12 (FKBP-12), thereby forming a drug complex that inhibits the activation of mTOR

Gedatolisib PK Properties vs. Other Approved PI3K Inhibitors

Differentiated chemical structure results in favorable PK profile and lower toxicity

	Gedatolisib ¹	Alpelisib ²	Copanlisib ²	Duvelisib ²	Idelalisib ²	Umbralisib ²
Target(s)	Pan-PI3K mTOR	ΡΙ3Κ-α	Pan-PI3K	ΡΙ3Κ-δ	ΡΙ3Κ-δ	ΡΙ3Κ-δ CK1ε
Administration	IV	Oral	IV	Oral	Oral	Oral
Dosing in molar/month	0.88	19.03	0.37	3.22	20.22	32.3
Volume (distribution) L	30	114	871	29	23	312
AUC plasma ug.h/mL	47.1	33.2	1.6	7.9	10.6	141
Cmax ng/mL	8,594	2,480	463	1,500	1,861	7,300
Half-life (hours)	37	8-9	39	5	8	91
Hyperglycemia (G 3/4) ³	7%	39%	41%	-	-	-
Treatment related SAE's ³	15%	35%	26%	65%	68%	18%
Treatment related (TR) Discontinuations ³	4%	26%	16%	35%	17%	14%

Gedatolisib vs. PI3K- α and pan-PI3K drugs

- o 80% lower rate of Grade 3/4 hyperglycemia
 - Due to gedatolisib's lower liver exposure
 - Alpelisib dosage 22x > geda (molar/month)
 - Copanlisib 50x > retention liver vs plasma
- $\,\circ\,$ 75%-85% lower rate of TR discontinuations
- $_{\odot}~$ 4x-20x higher C_{max}
- o 4x-30x more efficient distribution in plasma
- o 1.5x-30x higher AUC plasma

Gedatolisib vs. PI3K-δ drugs

- 73%-97% lower dosage (molar/month)
- o Minimal GI, liver, and infection-related AE's



Sources: 1) Venkatesan 2010; B2151009 Arm D; internal Celcuity studies; 2) FDA label; 3) No head-to-head trials have been conducted; data collected from different trials, in different patient populations and may not be comparable.



Gedatolisib for Advanced Breast Cancer (ABC)



Gedatolisib's Initial Potential Target Patient Population

Patients with HR+/HER2- ABC whose disease progressed during treatment with a CDK4/6 therapy



~108,000 patients with HR+/HER2- advanced breast cancer are treated annually with CDK4/6 inhibitors



Sources: Pfizer, Eli Lilly and Novartis 2021 annual reports; Datamonitor Healthcare; ROW calculated using 84% EU scale up factor

Limited Benefit for 2nd Line HR+/HER2- ABC Patients Post-CDK4/6 Treatment

Finding more effective treatment for these patients is the biggest unmet need in breast cancer

2nd Line SOC HR+/HER2- Metastatic Breast Cancer (Post CDK4/6 inhibitor)

Treatment (Patient Group)	mPFS (months)	ORR ¹
Fulvestrant ² (PIK3CA WT)	1.9	NR
Everolimus (mTOR) + Exemestane ³ (PIK3CA WT)	Unknown	Unknown
Alpelisib (PI3K-α) ⁴ + Fulvestrant (PIK3CA MT)	7.3	21%

Treatment guidelines recommend use of sequential endocrine therapy before chemotherapy, in the absence of visceral crisis or until all endocrine therapy options have been exhausted.⁵

Abbreviations: ORR = objective response rate; PFS = progression free survival; WT = wild type; MT = mutant; NR = not reported



Sources: (1) ORR is for patients with measurable disease; (2) Bardia 2021, EMERALD trial; (3) No prospective clinical trials have been conducted for this regimen in this patient population; (4) Rugo 2021, BYLieve trial; (5) B Moy 2021, JO Brett 2021; GJ Lindeman 2021.

Recently Reported SERD Studies for 2nd /3rd Line HR+/HER2- ABC

- Two clinical trials evaluating oral selective estrogen receptor degraders (SERD) reported results recently
 - Patient population similar to gedatolisib's initial target population
 - Each study compared PFS of investigational therapy to fulvestrant
 - Neither study reported clinically meaningful improvement in median PFS
- EMERALD (elacestrant)
 - Phase 3 study reported PFS of 2.8 months vs.1.9 months for elacestrant vs. fulvestrant (HR=0.70; 95% CI 0.55 - 89)
- AMEERA-3 (amcenestrant)
 - Phase 2 study reported that amcenestrant failed to meet the primary endpoint goal for PFS

Highlights need to target additional pathways that are critical oncogenic drivers or serve as adaptive resistance mechanisms



PI3K/mTOR, ER, and CDK4/6 are Interdependent Signaling Pathways

Activated PI3K/mTOR is a key resistance mechanism to estrogen and CDK4/6 therapies

Treatment Strategy for Breast Cancer

- Simultaneously blocking ER, PI3K, mTOR & CDK4/6 signaling pathways minimizes cross-pathway resistance
- For patients who progressed on a CDK4/6 inhibitor, continuing CDK4/6 and adding PI3K/mTOR treatment:
 - Blocks intrinsic and adaptive activation of PI3K/mTOR signaling
 - Resensitizes tumors to CDK4/6 inhibition by restoring CDK4/6 signaling
 - o Resensitizes tumors to estrogen receptor inhibition



Gedatolisib + Palbociclib + Letrozole in 1st Line HR+/HER2- ABC (N=31)¹

Data compares favorably to published data for palbociclib + letrozole therapy from PALOMA-2²



PALOMA-2 mPFS = 24.8 months

PALOMA-2 ORR = 55%



(1) Layman 2021 SABCS; Arm A data. (2) Finn 2016 NEJM. Note: (1) ORR reported is for patients with measurable disease. (2) No head-to-head trials have been conducted; data collected from different trials, in different patient populations and may not be comparable. (3) Data presented is from a preliminary data analysis as of a cutoff date of May 10, 2021, representing a database snapshot, and may change based on ongoing routine data monitoring

Gedatolisib + Palbociclib + Fulvestrant in 2nd/3rd Line HR+/HER2- ABC Patients

Data from Phase 1b study with Phase 3 regimen (Arm D) compares favorably to published data with current SOC (N=27)





Source: Layman 2021 SABCS. Arm D from B2151009 study. Data presented is from a preliminary data analysis as of a cutoff date of May 10, 2021, representing a database snapshot, and may change based on ongoing routine data monitoring.

Pivotal Trial Design Considerations for 2nd Line HR+/HER2- ABC

- Standard-of-care 2nd line treatment differs based on *PIK3CA* status
 - PIK3CA wildtype (WT): Fulvestrant or everolimus + exemestane
 - PIK3CA mutated (MT): Alpelisib + fulvestrant
- 35% of patients have *PIK3CA* mutations in HR+/HER2- breast cancer
- Must formally test efficacy for each *PIK3CA* sub-group (WT and MT)
- PFS is the standard primary end point for randomized studies in 1st/ 2nd line HR+/HER2- ABC
 - Pivotal studies for all current FDA approved therapies used PFS

Supports design with multiple primary endpoints in different sub-groups



VIKTORIA-1 Pivotal Phase 3 Trial Design Overview



1) Optional Cross-over to Arm A or Arm B upon progressive disease; WT = wild type; MT = mutant; PFS = progression free survival

EXPANDING TREATMENT OPTION

VIKTORIA-1 Pivotal Study Features

- Global open-label randomized study
- Key eligibility criteria:
 - Any *PIK3CA* status
 - Progressed on prior CDK4/6 treatment
 - Any menopausal status
 - \leq 2 prior endocrine therapy and \leq 1 prior chemotherapy
- Three primary endpoints could support three separate indications
 - Two co-primary endpoints (PFS) in PIK3CA WT patients
 - One primary endpoint (PFS) in *PIK3CA* MT patients
- Three-arm design for *PIK3CA* WT patients enables evaluation of two different regimens and shows contribution of gedatolisib
- Stratification by geography, prior chemotherapy (yes/no), prior treatment response (≤ or > 6 months), presence of visceral metastasis (yes/no)

Designed to support indications for gedatolisib and fulvestrant with or without palbociclib as second or third treatment for patients with HR+/HER2- advanced or metastatic breast cancer who have progressed on prior treatment with a CDK4/6 therapy in combination with Al



Relevant Clinical Trial Results for VIKTORIA-1 Study Arms

Each trial evaluated patients who received prior treatment with a CDK4/6 therapy

	Gedatolisib + Palbociclib + Fulvestrant N=27 ¹	Fulvestrant N=165 ⁴	Alpelisib + Fulvestrant N=121 ⁵
PIK3CA Status	WT / M (67% / 33%)	WT	М
Line of Therapy (% by line)	2L / 3L+ (67% / 33%)	2L / 3L+ (NR) ³	1L / 2L/ 3L+ (12% / 70% / 19%)
mPFS (months)	12.9	1.9	7.3
ORR	63% (overall) ^{2,3} <u>WT</u> <u>M</u> 59% 78%	NR	21%
PFS % at 12 months	53.2% (overall) ³ <u>WT M</u> 48.5% 60.0%	10%	27%
Treatment Related Discontinuation	4%	1%	18%

CELCUITY EXPANDING TREATMENT OPTIONS Sources: (1) Layman 2021 SABCS – B2151009 Trial, Arm D; (2) Includes 2 unconfirmed PR. (3) WT and MT sub-group data is from internal Celcuity analysis. (4) Bardia 2021 SABCS – EMERALD trial; (5) Prior lines of therapy was only reported for the control population as a whole, of which 59% had only one prior line of endocrine therapy. The 165 patients treated with fulvestrant represented 69% of the total control population. (6) Rugo 2021 – BYLieve trial Note: No head-to-head trials have been conducted; data collected from different trials, in different populations and may not be comparable. Data presented for gedatolisib is from a preliminary data analysis as of a cutoff date of May 10, 2021 and may change based on ongoing routine data monitoring.

Gedatolisib – A Phase 3 Ready Asset with Multiple Potential Indications

Phase 1b data in HR+/HER2- MBC reported better ORR and PFS than SOC in 1st and 2nd lines

Compelling Efficacy in Advanced Breast Cancer	Multiple Potential Indications	Key Milestones	Financial Resources
	$\langle \rangle$	222 222	
 Very promising results from Arm D of Phase 1b (basis for Phase 3) 63% ORR, 12.9 months mPFS High ORR and PFS rate at 12 mo for both – PIK3CA MT and PIK3CA WT <4% discontinuation rate 	 Numerous other tumor (ypes involve Pl3K/mtOs signaling) Compelling POC clinical data with Pl3K therapies that have inferior MOA, higher toxicity Prostate, endometrial, ovarian, and head & neck cancers involve Pl3K/mtOR pathway 	 Laying groundwork for cobust development plan Activate VIKTORIA-1 Phase 3 study in 1H '22 Lifecycle development update in 1H '22 CELsignia data readouts in 2023 	Strong balance sheet • 12/31/21 - \$84.3 million cash on hand