



**CYCLACEL**

**Translating cancer biology into medicines**  
***Noble Capital Markets Conference***

**NASDAQ CYCC - January 30, 2018**

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# Spending on Cancer Medicines



**\$107 bn in 2015 (+12% YoY). *Est. ~\$150 bn in 2020.***

Price hikes, ↑ patient #, **longer duration of therapy**

Avg. annual patient out-of-pocket: **\$7k iv, \$3k oral Rx**

Major threat to this colossal investment:

***RESISTANCE TO CANCER Rx***

\* Source: Aitken M, Kleinrock, M, IMS Institute for Healthcare Informatics, June 2, 2016.

Single Rx targeting mutations: validated approach

↑ response but few cures/long stable disease

## ***EVOLUTION OF RESISTANCE OR ADDICTION TO CANCER GENES***

- Strategy: combine approved Rx that is no longer working with resistance-modifying Rx or
- Rx that breaks addiction

**Our solution:**  
***Cyclin Dependent Kinase CDK Inhibitors***

2001 Nobel Prize for Physiology & Medicine (*CDKs & cyclins*)

3 approved CDKi:

- IBRANCE® (palbociclib, PFE, approved 2015, ~\$3.3bn 2017E)
- 2017: KISQALI® (ribociclib, NVS), VERZENIO® (abemaciclib, LLY)
- CDK4/6 inhibitors → senescence → eventually resistance

*CDK2/9i strategy: overcome **resistance** by lowering killing threshold*

- CYC065 2<sup>nd</sup> Gen, highly potent, improved Rx profile (Ph 1)

In many cancers resistance correlates with:

- ↑ ***pro-survival*** protein expression, such as Bcl-2, Bcl-XL, **Mcl-1**
- addiction to oncogenes, such as **MYC**, **cyclin E**

First Bcl-2 Rx: venetoclax (ABBV, CLL); does not ↓ Mcl-1

Competitive race to develop Mcl-1 inhibitors

- *CYC065 1st CDK inhibitor Rx: durable ↓ Mcl-1 in patients*

\* Source: Cyclacel data on file.

n=26 heavily pretreated patients with advanced solid tumors (13 in DL6 cohort RP2D)

- Durable **Mcl-1 suppression** >24h after single dose in 11/13 evaluable DL6 patients
- Anticancer activity in 6/13 patients (5 at RP2D)

*\* Source: Cyclacel data on file.*



## ***Hematological malignancies:***

- 1 Combination with **venetoclax**, i.e. relapsed/refractory CLL (incl. Mcl-1 ↑)

## ***Solid tumors:***

- 2 Selected Mcl-1 ↑ or MYC ↑ solid tumors, i.e. **neuroblastoma**, ovarian, etc.
- 3 Selected Cyclin E ↑ solid tumors, i.e. breast, uterine (USC)

Rare ped. Dx; 90% children <5y; few survive >10y

- *MYCN amplification ~40-50% of high risk NB*

CYC065 rare investigational Rx to show activity in adult patients with MYCN amplification

Discussions with KOLs ongoing

*\* Source: Cyclacel data on file.*

## *CDK4/6 isoform*

**palbociclib (PFE), ribociclib (NVS), abemaciclib (LLY)**

Approved in combination with letrozole for ER +ve Her2 -ve advanced or met BC

**trilaciclib (GTHX) Ph1/2**

## *CDK2/9 transcriptional isoform*

**CYC065 (CYCC 2G) Ph1**

**seliciclib (CYCC 1G) Ph2**

**dinaciclib (pan CDK, MRK) Ph3**

**BAY1143572 (CDK9, BAY) Ph1**

*Other (pan CDK or selective):*

**SY1365 (CDK7, Syros);**

**voruciclib (CDK4/6/9, MEI Pharma)**

# **DNA Damage Response (DDR) Clinical Program**

# DNA Damage Response (DDR):

*Overcoming Cancer DNA Repair & Evasion*



Cancer cells evade Rx; block DNA repair; ultimately become immortal

SoC HR deficient cancers (incl. BRCA): PARP inhibitors in ~ 50% of patients

## ***CYCC DDR strategy: combine CDKi + sapacitabine***

- CDKi modulate DNA repair via HR, NHEJ; ↓ expression of HR DNA repair genes incl. BRCA; disrupts cyclin E amplification
- Sapacitabine active in patients with BRCA +ve (HR def) cancers
- Encouraging clinical data (n=76) reported at ASCO

# Sapacitabine & Seliciclib Phase 1 Best Responses\*



## RECIST Evaluable BRCA Carriers

Cancer	Best Response	Prior Treatment	Total cycles
<b>Part 1</b>	<b>(n=16)</b>		
Breast	CR	adriamycin, cyclophosphamide, paclitaxel, cisplatin	>80
Breast	PR	adriamycin, cytoxan, paclitaxel, carboplatin	31
Ovary	SD	paclitaxel, carboplatin, gemcitabine	21
Ovary	PR	paclitaxel, carboplatin, gemcitabine, topotecan, iniparib	18
Breast	SD	tamoxifen, raloxifene, anastrozole, adriamycin, Cytoxan, paclitaxel, carboplatin, navelbine	7
Pancreas	PR	gemcitabine, 5-FU, oxaliplatin	7
<b>Part 2</b>	<b>(n=28)</b>		
Breast	PR	adriamycin, cytoxan, paclitaxel, capecitabine, irinotecan, ABT-888 (PARP inhibitor), MPDL3280A	>19
Ovary	SD	paclitaxel, carboplatin, doxil	22
Breast	SD	adriamycin, cytoxan, capecitabine, faslodex	12
Ovary	SD	paclitaxel, carboplatin, doxil, gemcitabine, topotecan, cytoxan, avastin	11
Ovary	SD	paclitaxel, carboplatin, doxil, olaparib (PARP inhibitor), cediranib	8
Ovary	SD	paclitaxel, carboplatin	4
Ovary	SD	paclitaxel, carboplatin, doxil, gemcitabine, alimta, cytoxan, avastin, olaparib (PARP inhibitor)	4
Pancreas	PR	gemcitabine, abraxane, docetaxel	4
Pancreas	SD	gemcitabine, cisplatin, abraxane, folfox, TH-302	4

ED AT: ASCO ANNUAL MEETING '16

Presented by: Sara M. Tolaney, MD, MPH

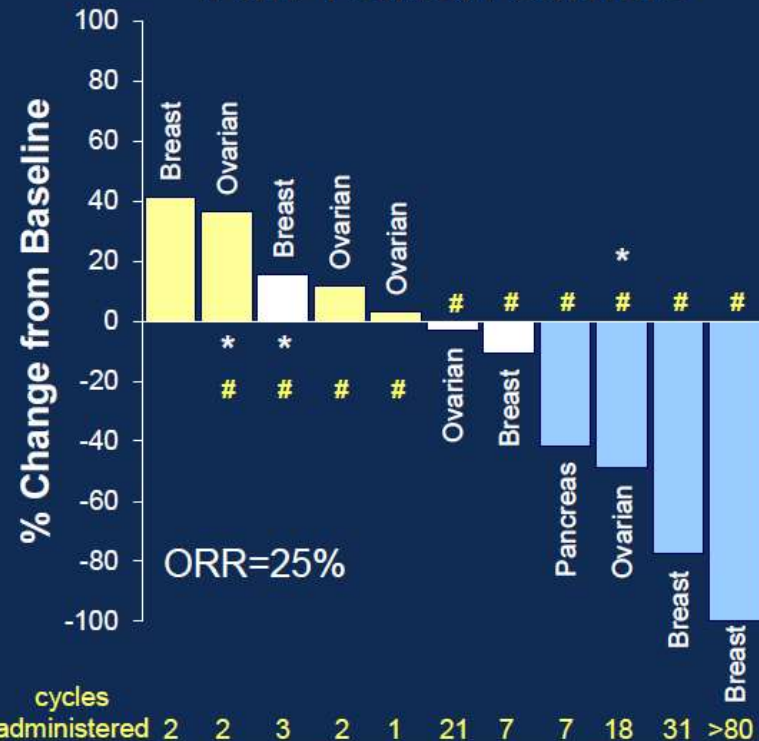
\* Source: Tolaney S et al, JCO 34, 2016 (suppl; abs. 2503).

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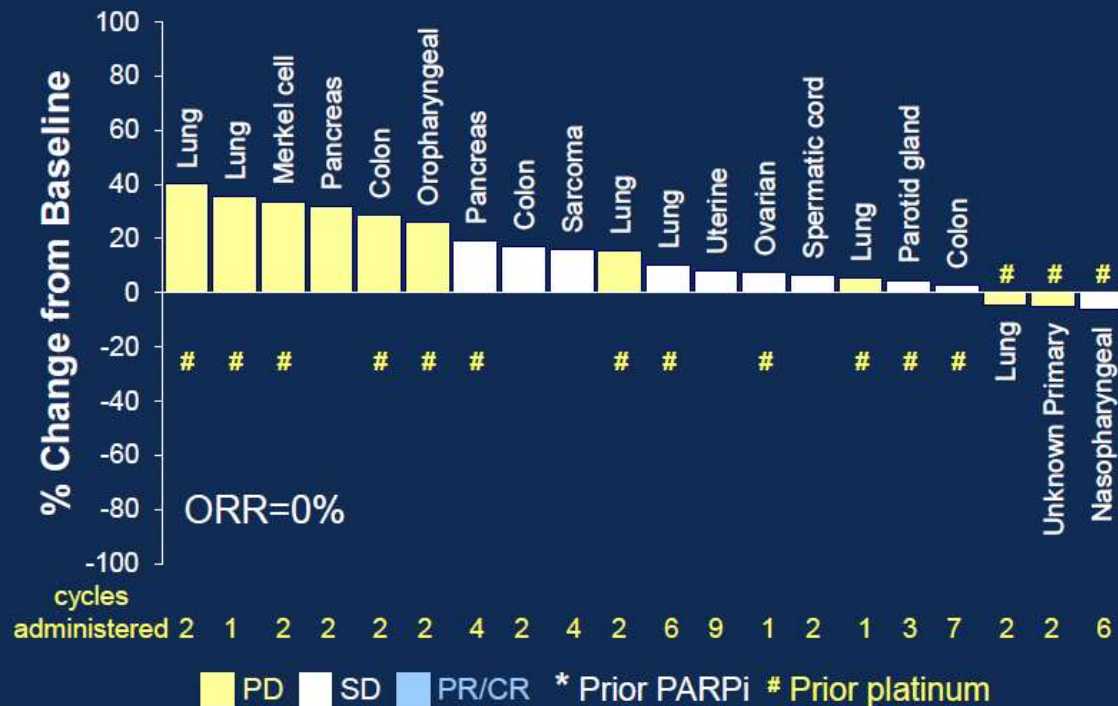


## Best Response (all cycles)

Part 1 BRCA carriers



Part 1 Non-BRCA carriers



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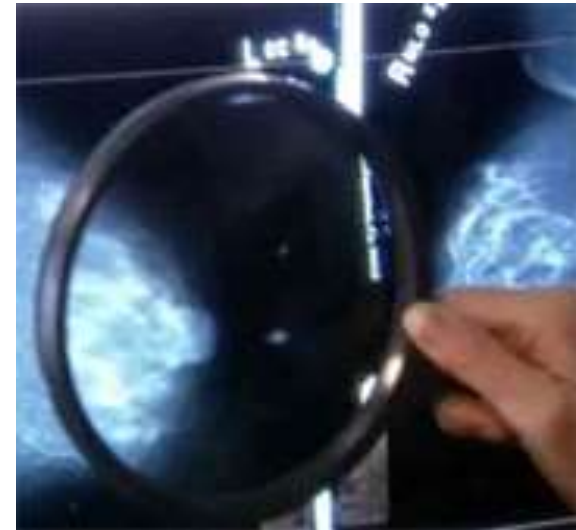
\* Source: Tolaney S et al, JCO 34, 2016 (suppl; abs. 2503).

# DDR Strategy: sapacitabine + CDK inhibitor



All-oral, low toxicity regimen

- Parts 1 & 2 durable benefit (CR, PRs & SD) in BRCA+ve **breast, ovarian, pancreatic** cancers
- Part 3 ongoing: revised schedule including BRCA +ve ovarian, pancreatic cancer patients



*Potentially substitute CYC065 in lieu of seliciclib*



\* Source: Tolaney S et al, J Clin Oncol 34, 2016 (suppl; abstr 2503); Shapiro et al, AACR Proceedings, 2013, LB-202. HR=homologous recombination. # single-strand breaks



# Sapacitabine in AML

# Sapacitabine in AML (SEAMLESS Ph 3 data)

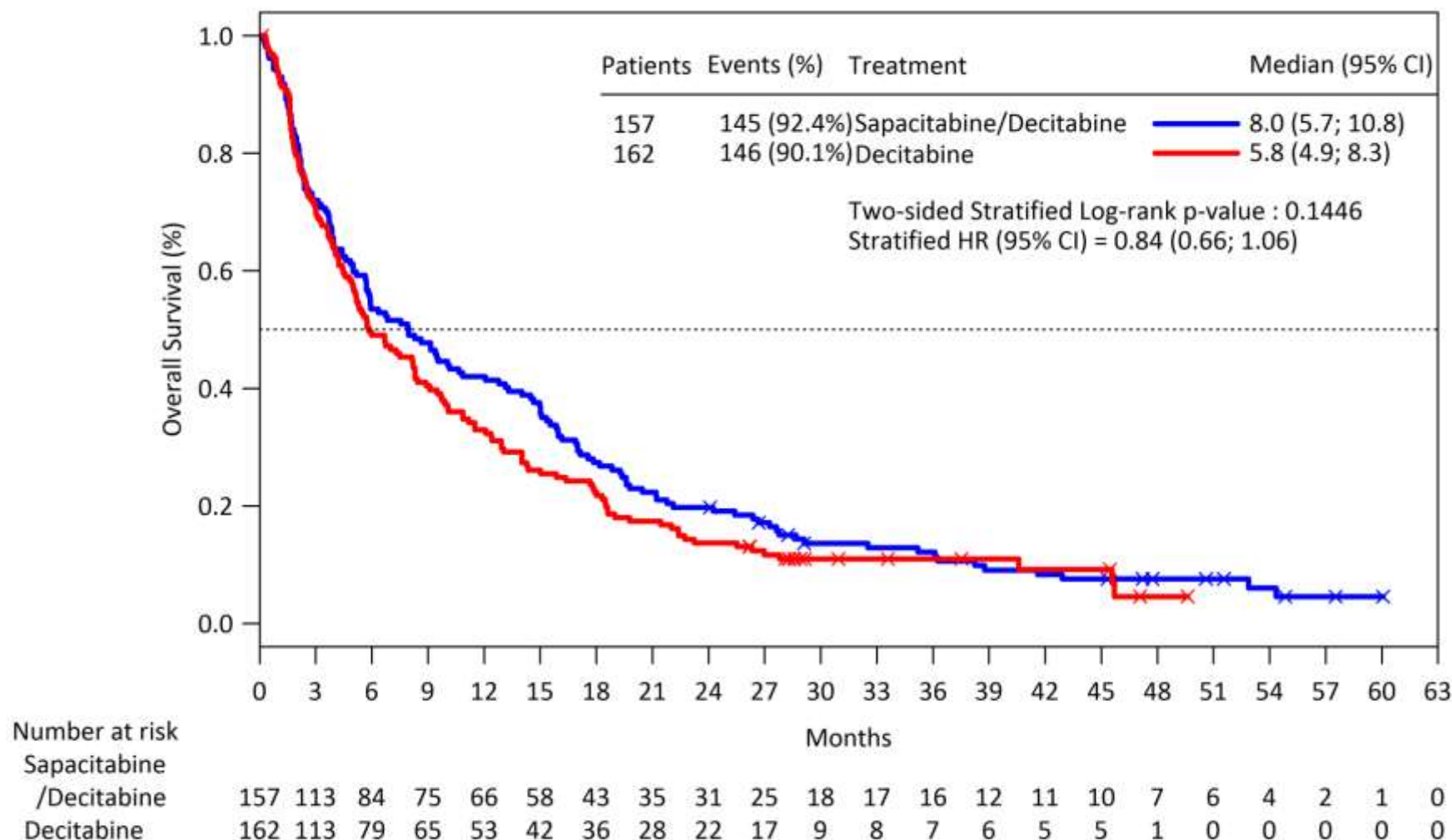
*Optionality from potential regulatory submission*



- ✓ Increase in median OS (primary endpoint) did not reach stat. sig.
- ✓ Doubling of CR rate (secondary endpoint)
- ✓ Improved median OS in large (2/3 of study) prospectively defined subgroup based on WBC level
- ✓ Oral presentation at ASH Annual Meeting 2017
- Determine optimal cut-off for WBC
- Determine submissibility to regulatory authorities
- Pre-submission End of Phase 3 meetings

*Source: Cyclacel press releases and data on file.*

# Survival - Baseline WBC <10,000



\* Source: Kantarjian H, et al, American Society of Hematology Annual Meeting Dec. 2017, Abstract #891.

# Development Pipeline



Program CYC- ...	Target/Indication	Preclinical	Phase 1/1b	Phase 2	Pivotal	Comm. Rights
065	Solid tumors (FIH)	RP2D Part 2 ongoing				Worldwide
	Blood cancers CLL + Bcl-2 inhibitor	CYC065 + venetoclax RR CLL				
	Solid tumors, i.e. NB MYCN, Mcl-1, Cyc E		Ph 1/2			
	Oral formulation	CMC	Ph1 Oral			
sapa	DDR*: BRCA Breast,ovarian,pancr.	sapa + seliciclib Part 3 ongoing				Worldwide (except Japan)
	SEAMLESS Data AML	Determine submissibility; regulatory advice				
140	Solid tumors and blood cancers	IND-ready	Ph1 FIH			Worldwide
Current activity		In planning stage				

# Financials

# Financial Position & Capitalization



**Sept 30, 2017 cash & cash equivalents: \$26.0m<sup>1</sup>**

**Current Operating cash burn (excludes non-cash items)**

- ✓ 2014: ~ \$18.7m annual<sup>2</sup>
- ✓ 2015: ~ \$14.5m annual<sup>2</sup>
- ✓ 2016: ~ \$10.1m annual<sup>2</sup>
- 2017: ~ \$ 8.0m annual<sup>3</sup>

**Fully diluted shares: ~ 20.0 million<sup>1,4</sup>**

**No debt**

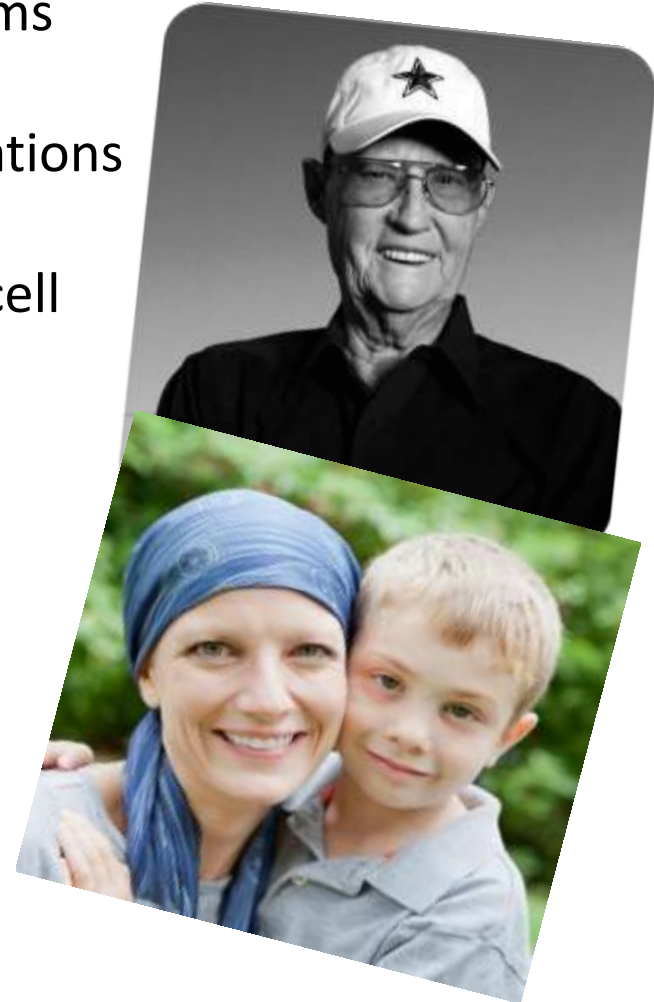
1. 10Q
2. 10-K
3. Company estimate
4. Common stock outstanding: 11.9m

# Key Milestones



- Start CYC065 Ph 1b in RR CLL combo with venetoclax
- Start CYC065 Phase 1/2 in solid tumors, incl. NB
- CYC065 Phase 1 data solid tumors
- CYC065 oral formulation development
- Sapacitabine/selaciclib update BRCA +ve breast cancer
- CYC140 (PLKi) IND submission
- Determine submissibility of sapacitabine in eAML

- Clinical stage CDKi and DDR oncology programs
- Targeting molecularly-defined patient populations
- Treat difficult cancers and overcome cancer cell resistance & DNA repair
- CDK inhibitors: validated drug class
- Competitively positioned
- Significant market opportunities





# THANK YOU

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