



CYCLACEL

Translating cancer biology into medicines

NASDAQ CYCC January 2018

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- Apply deep understanding of cell cycle biology to disrupt
 - a. cancer cell **resistance** (*transcriptional regulation*)
 - b. **DNA repair/evasion** (*DNA damage response regulation*)
- Pioneer in Cyclin Dependent Kinase inhibitors
- Focus on molecularly-defined patient populations
- Rationally designed clinical programs in solid and blood cancers
- Experienced management
- Estimated capital through YE 2019

- Single drugs targeting driver mutations: a validated approach
- However, high response often does not translate into cures or long disease free state
- Reason: evolution of resistance and/or minimal residual disease
- Strategy: combination of resistance-modifying drugs with approved drug that is no longer working
- Goals:
 - widen therapeutic window by killing or
 - degrading resistant cells by lowering their suicide threshold

Transcriptional Regulation Program ***(Cyclin Dependent Kinase Inhibitors)***

Cyclin Dependent Kinase inhibitors (CDKi)



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

Paradigm-shift in breast cancer: CDK4/6i-based combinations with AI

- IBRANCE® (palbociclib, PFE, approved 2015, ~\$2.1bn 2016 sales)
- KISQALI® (ribociclib, NVS), VERZENIO® (abemaciclib, LLY) approved 2017
- CDK4/6 inhibitors → senescence → eventually resistance

CDK2/9i strategy: overcome **resistance** → apoptosis via regulating transcription

- Seliciclib 1st Gen, signals of anticancer activity (Ph 2)
- CYC065 2nd Gen, more potent, better profile than seliciclib (Ph 1)

- In many cancers resistance correlates with:
 - ↑ expression of pro-survival proteins (Bcl-2, Bcl-XL, **Mcl-1**, etc.) and/or
 - addiction to oncogenes (incl. **MYC**, **cyclin E**)
- First Bcl-2 inhibitor: venetoclax (ABBV for CLL, does not ↓ Mcl-1)
- Competitive race to develop Mcl-1 inhibitors
- CYC065:
 - *1st CDKi to ↓ Mcl-1 in patients with signals of clinical benefit*

* Source: Cyclacel data on file.

n=26 heavily pretreated patients with advanced solid tumors

- Determined safety, DLT, PK in 7 DL, est. RP2D; DL7 MTD reversible neutropenia
- Treated n=13 in DL6 cohort
- Demonstrated target engagement and consistent **Mcl-1 suppression** over 24h after single dose in 11/13 evaluable DL6 patients
- Anticancer activity observed in 7/13 DL6 patients, including: #
 - **5 with ovarian cancer, of which 1 with MYC amplification,**
 - **1 with parotid gland and 1 with submandibular gland cancer.**
 - Also 1 with cyclin E/Mcl-1 amplified ovarian cancer achieved 40% CA125 ↓

** Source: Cyclacel data on file. # Excludes another MYC amplified patient with laryngeal cancer at DL4.*

Hematological malignancies:

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

Solid tumors:

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

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 evolve, eventually becoming immortal by blocking DNA repair

SoC for HR deficient cancers (incl. BRCA1, -2): PARP inhibitors in ~ 50% of patients

CYCC DDR strategies:

- CYC065 CDKi: modulate DNA repair via HR, NHEJ, etc. pathways
- ↓ expression of HR DNA repair genes (BRCA1 and BRCA2)
- Sapacitabine best clinical data: in BRCA +ve patients with various cancers

Clinical translation possibilities:

- Single agent in sensitive cancers
- Combinations with SoC

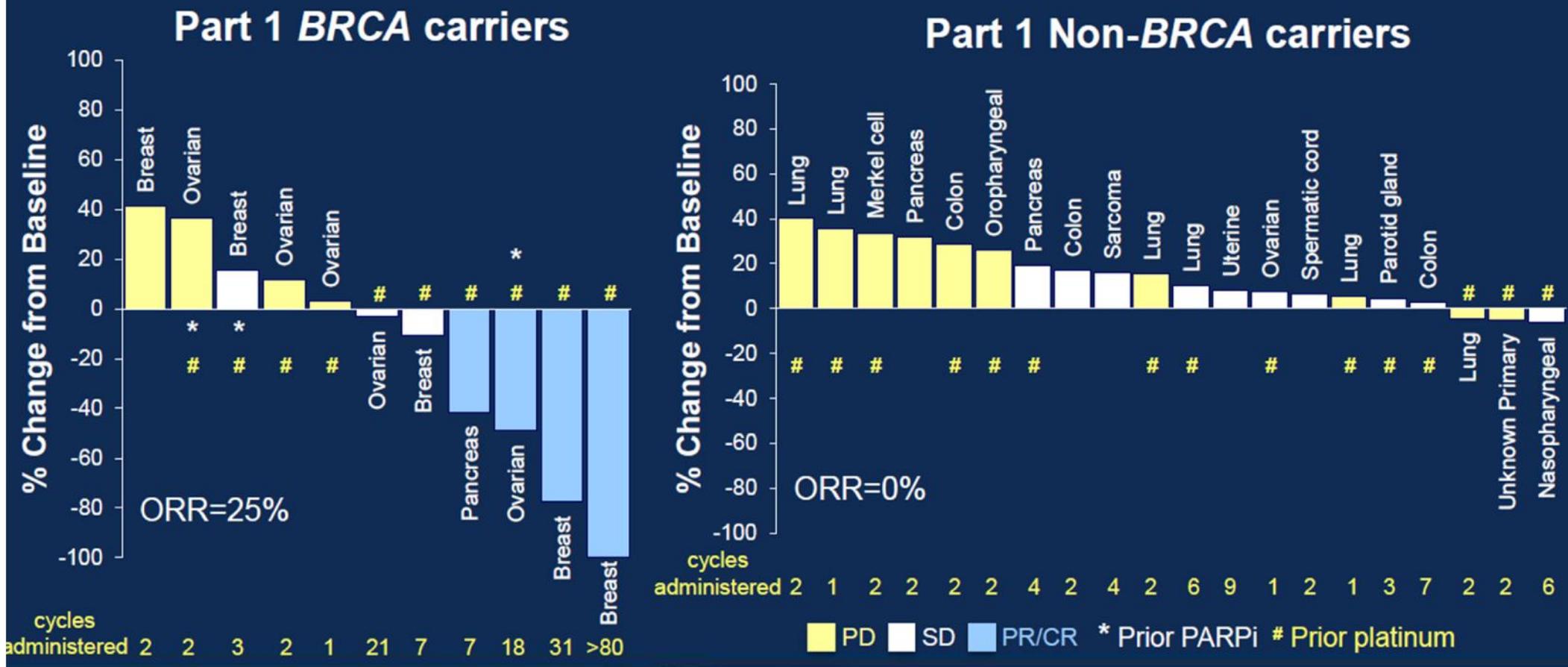
RECIST Evaluable BRCA Carriers

Cancer	Best Response	Prior Treatment	Total cycles
<i>Part 1 (n=16)</i>			
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
<i>Part 2 (n=28)</i>			
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

Sapacitabine & Seliciclib Phase 1 BRCA +ve Benefit*



Best Response (all cycles)



PRESENTED AT: ASCO ANNUAL MEETING '16

Presented by: Sara M. Tolaney, MD, MPH

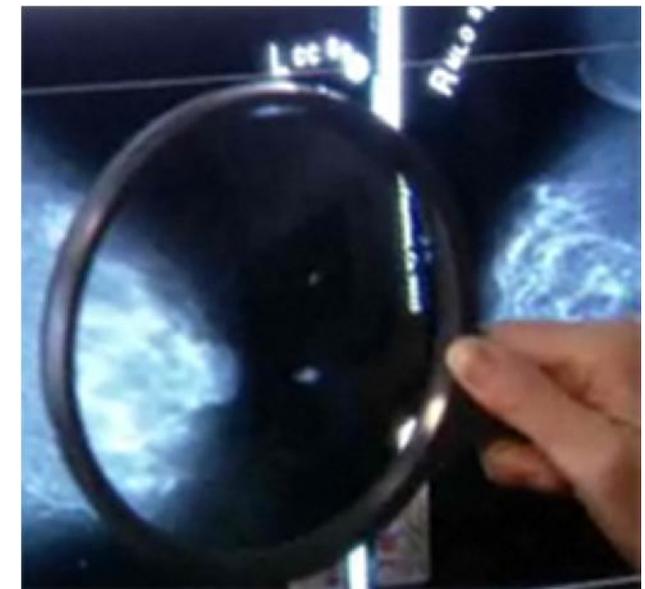
* Source: Tolaney S et al, JCO 34, 2016 (suppl; abs. 2503).

DDR: Rational combo of sapacitabine + CDK2/9 inhibitor

*Activity in HR-repair deficient tumors **



- All-oral regimen, complementary mechanisms:
sapacitabine's dual MoA of DNA SSBs[#] and cell cycle arrest plus CDKi modulation
- Parts 1 & 2 durable clinical benefit (PRs & prolonged SD) in patients with BRCA +ve:
breast, ovarian, pancreatic cancers
- Part 3 started: revised schedule including BRCA +ve ovarian, pancreatic cancer patients



Potential line extensions with 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)

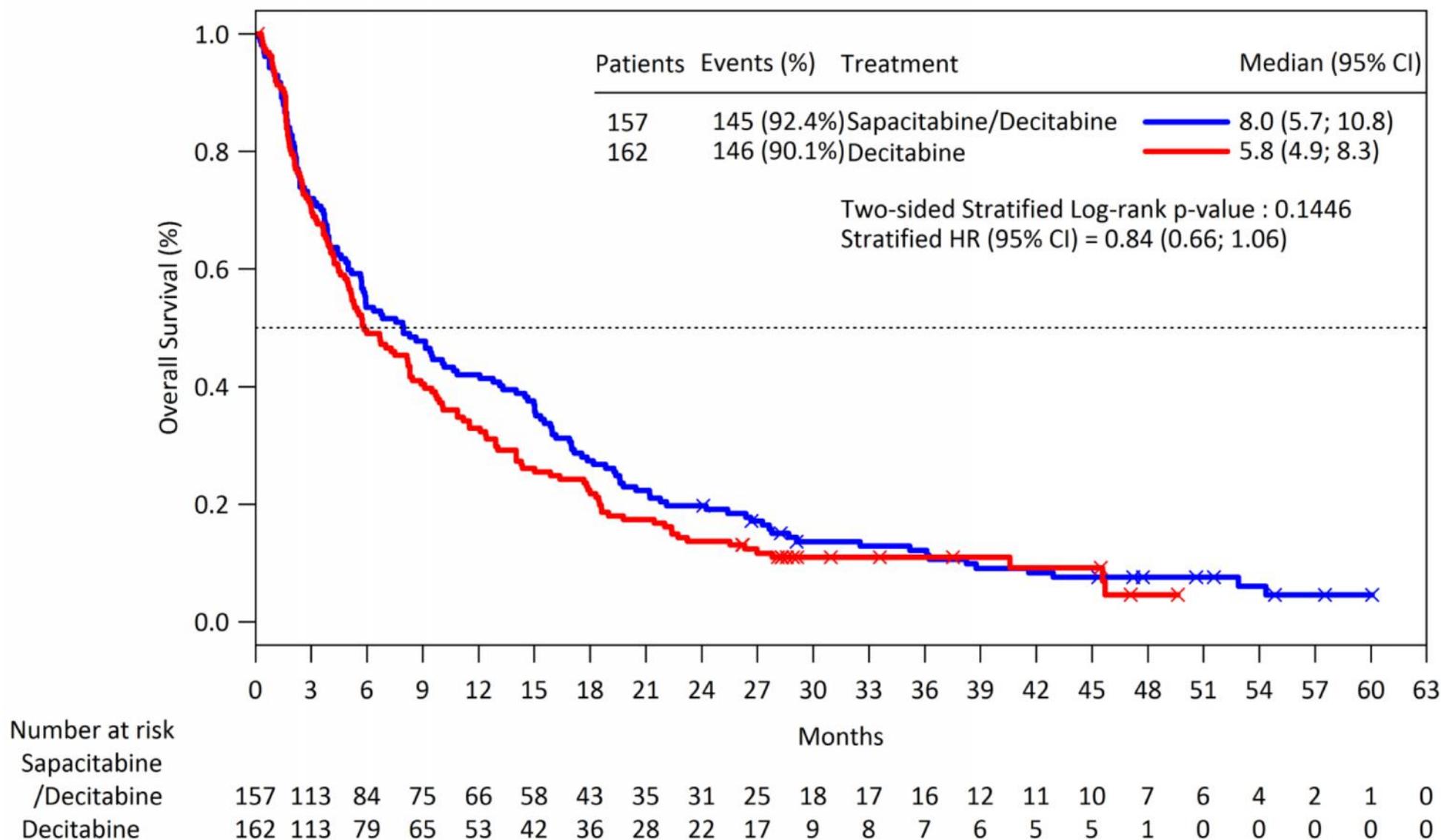
Optionality from potential regulatory submission



- ✓ 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
- ✓ Karyotype analysis completed followed by final analysis
- ✓ Oral presentation at ASH Annual Meeting 2017
 - 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



Development Pipeline



Program	Target/Indication	Preclinical	Phase 1/1b	Phase 2	Phase 3 or pivotal	Commercial Rights
CYC065 iv and oral CDK2/9 inhibitor	Solid tumors (FiH)	<i>RPh2D</i>				Worldwide
	Mcl-1 ↑ RR CLL ± Bcl inhibitor	<i>CYC065+venetoclax</i>	<i>RR CLL</i>			
	Cyclin E Ovarian, breast, etc.	<i>CYC065</i>	<i>Ovarian</i>			
	DDR*: BRCA+ve Breast, ovarian, pancr.	<i>CYC065 + sapacitabine</i>				
	DDR*: BRCA+ve Breast, ovarian, pancr.	<i>+ PARPi</i>				
sapacitabine nucleoside analogue	DDR*: BRCA+ve Breast, ovarian, pancr.	<i>sapacitabine + seliciclib</i>				Worldwide (except Japan)
	AML unfit for chemo, ≥ 70y	<i>Data Analysis</i>				
CYC140 PLK1 inhibitor	Solid and blood cancers	<i>IND-ready</i>	<i>Ph1 FIH</i>			
Investigator sponsored trials (IST)	Seliciclib (CYC202)	<i>Cushings disease, RA, cystic fibrosis</i>				Worldwide
	CYC065 <i>MYCN amplified</i>	<i>CYC065</i>	<i>Neuroblastoma</i>			
	CYC065 <i>MCL-1</i> ↑	<i>CYC065</i>	<i>MLL-r leukemias</i>			

Current status

Planned studies

Data Dependent

* DDR=DNA Damage Response

Financials

Sept 30, 2017 cash & cash equivalents: \$26.0m¹

Current Operating cash burn (excludes non-cash items)

- ✓ 2014: ~ \$18.7m annual²
- ✓ 2015: ~ \$14.5m annual²
- ✓ 2016: ~ \$10.1m annual²
- 2017: ~ \$ 8.0m annual³

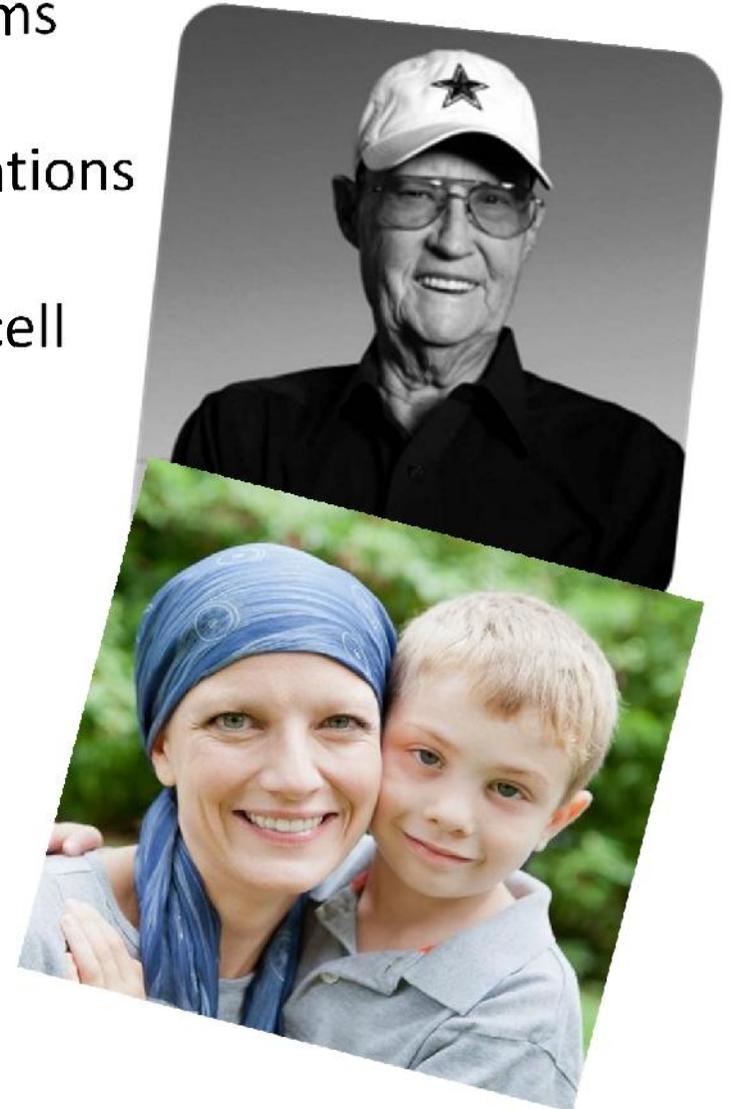
Fully diluted shares: ~ 20.0 million^{1,4}

No debt

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

Investment Thesis

- 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



Key Milestones



- Start CYC065 Ph 1b in RR CLL combo with venetoclax
- CYC065 Phase 1 data solid tumors
- Sapacitabine/selaciclib update BRCA +ve breast cancer
- ✓ Start Part 3 in BRCA +ve cancers beyond breast
- CYC140 (PLKi) IND submission
- Sapacitabine AML ASH data; determine submissibility

THANK YOU

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