UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of The Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): **October 6, 2017**

Syros Pharmaceuticals, Inc.
(Exact Name of Registrant as Specified in its Charter)

Delaware	**001-37813**	**45-3772460**
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(IRS Employer Identification No.)

620 Memorial Drive, Suite 300 **Cambridge, Massachusetts** (Address of Principal Executive Offices)	**02139** (Zip Code)

Registrant's telephone number, including area code: **(617) 744-1340**

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (*see* General Instruction A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☒

Item 7.01 Regulation FD Disclosure

From time to time, we intend to conduct meetings with third parties in which our current corporate slide presentation is presented. A copy of this slide presentation, dated October 6, 2017, is attached as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference.

The information responsive to Item 7.01 of this Form 8-K and Exhibit 99.1 hereto shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act") or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, except as expressly set forth by specific reference in such a filing.

Item 9.01 Financial Statements and Exhibits.

Exhibit No.	Description
99.1	Presentation dated October 6, 2017

SIGNATURE

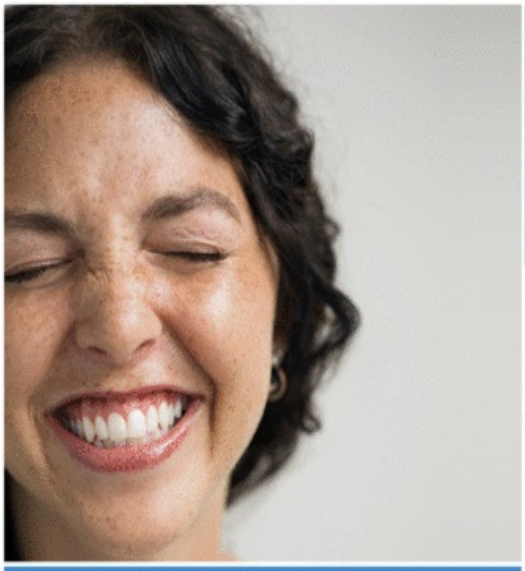
Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

SYROS PHARMACEUTICALS, INC.

Date: October 6, 2017

By: /s/ Nancy Simonian
Nancy Simonian, M.D.
President & Chief Executive Officer

Exhibit 99.1



SYROS

expression makes a world of difference

Company Overview

October 2017

Cautionary note regarding forward-looking statements

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that involve substantial risks and uncertainties. All statements, other than statements of historical facts, contained in this presentation, including statements regarding our strategy, research and clinical development plans, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "predict," "project," "target," "potential," "will," "would," "could," "should," "continue," and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Moreover, there can be no assurance that the PK and PD and *ex vivo* differentiation data generated to date in the ongoing Phase 2 clinical trial of SY-1425 are predictive of the ability of such trial to meet any of its endpoints.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in these forward-looking statements as a result of various important factors, including Syros' ability to: advance the development of its programs, including SY-1425 and SY-1365, under the timelines it projects in current and future clinical trials; advance discovery programs to identify drug candidates for IND-enabling studies; obtain and maintain patent protection for its drug candidates and the freedom to operate under third party intellectual property; demonstrate in any current and future clinical trials the requisite safety, efficacy and combinability of its drug candidates; replicate scientific and non-clinical data in clinical trials; successfully develop a companion diagnostic test to identify patients with biomarkers associated with the *RARA* super-enhancer; obtain and maintain necessary regulatory approvals; identify, enter into and maintain collaboration agreements with third parties; manage competition; manage expenses; raise the substantial additional capital needed to achieve its business objectives; attract and retain qualified personnel; and successfully execute on its business strategies; risks described under the caption "Risk Factors" in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2017 that is on file with the Securities and Exchange Commission (SEC); and risks described in other filings that we may make with the SEC in the future. Any forward-looking statements contained in this presentation speak only as of the date this presentation is made, and we expressly disclaim any obligation to update any forward-looking statements, whether because of new information, future events or otherwise.

Syros

Pioneering

First platform solely devoted to the **regulatory genome**

Productive

Goal to advance **1 IND every other year** on average

Rapid Translation

Platform **to Phase 2** proof-of-concept clinical trial **in 3 years**

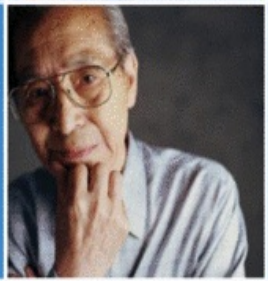
Broad Impact

Programs in **cancer/IO, autoimmunity, genetic diseases**

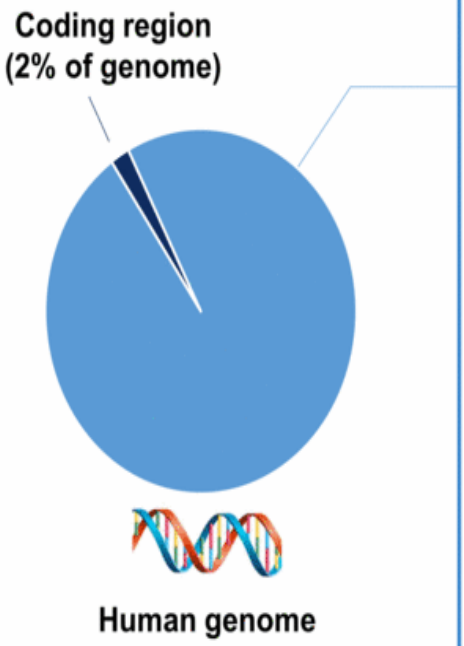
Strong Foundation

Well-funded with **broad strategic optionality** driven by **experienced leadership team**

Genomics 3.0 Platform

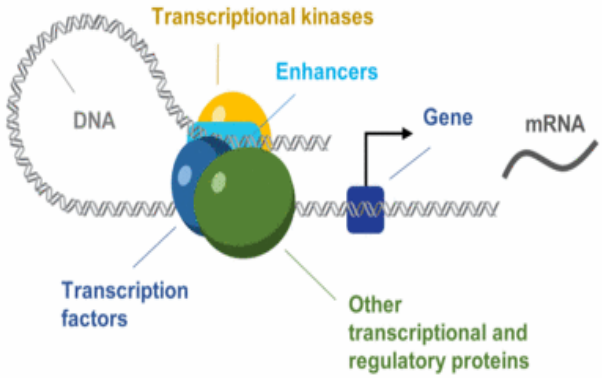


Gene expression, controlled by non-coding genome, is central to cell function in health and disease



Non-coding region (98% of genome)

- Controls gene expression by complex array of regulatory elements
- Largely unexploited for drug discovery
- Alterations involved in wide range of diseases



Our platform integrates three areas of expertise

Disease biology

Cancers

- Modulate transcription regulators to drive apoptosis or differentiation
- Modulate tumor cells, macrophages and T cells to promote tumor killing

Autoimmune disorders

- Modulate B cells and T cells from pro- to anti-inflammatory state

Monogenic diseases

- Modulate regulatory element(s) controlling expression of known gene

Small molecule chemistry

- Biochemical, structural biology and medicinal chemistry expertise in
  - transcription factors, including nuclear hormone receptors
  - transcriptional kinases
  - chromatin regulators
- Proprietary gene control compound library
- Compound screening capabilities against gene regulatory biomarkers for clinical acceleration

Regulatory genomics

- Whole genome analysis to identify dysregulated genes in patient subsets
- Single gene analysis to identify genomic regulatory elements controlling expression of genes

Productive platform generated multiple novel targets and drug programs in three years

We have industrialized our platform…

Network of academic and commercial collaborators for patient samples

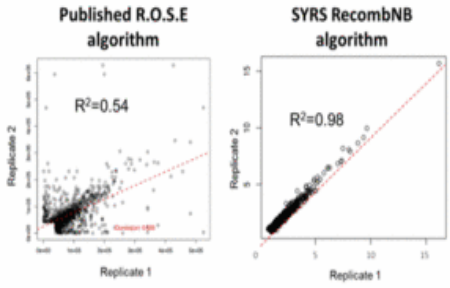
Stanford University
Seattle Children's
MASSACHUSETTS GENERAL HOSPITAL
HARVARD MEDICAL SCHOOL
ASTERAND
OREGON HEALTH & SCIENCE UNIVERSITY
UC San Diego

Reduced cells required for profiling

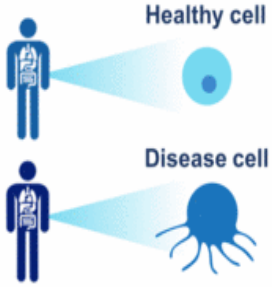
20,000,000 cells
2014

<100,000 cells
2016

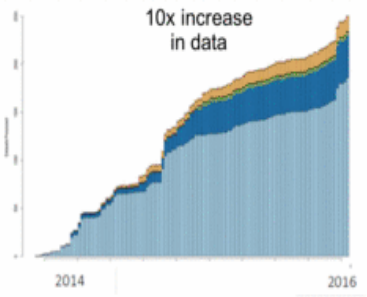
Advanced computational biology capabilities



…to analyze healthy and disease cells from patients…



…generating large data set of human disease regulatory genomes …



…yielding a broad range of novel discoveries

- 2 clinical programs
- 4 current preclinical programs
- Multiple novel targets and biomarkers across oncology, IO and AI

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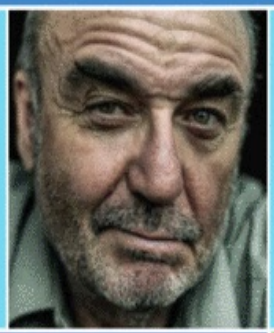
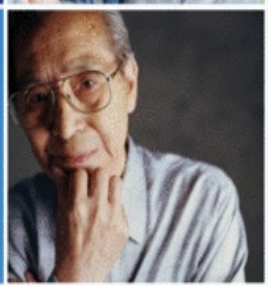
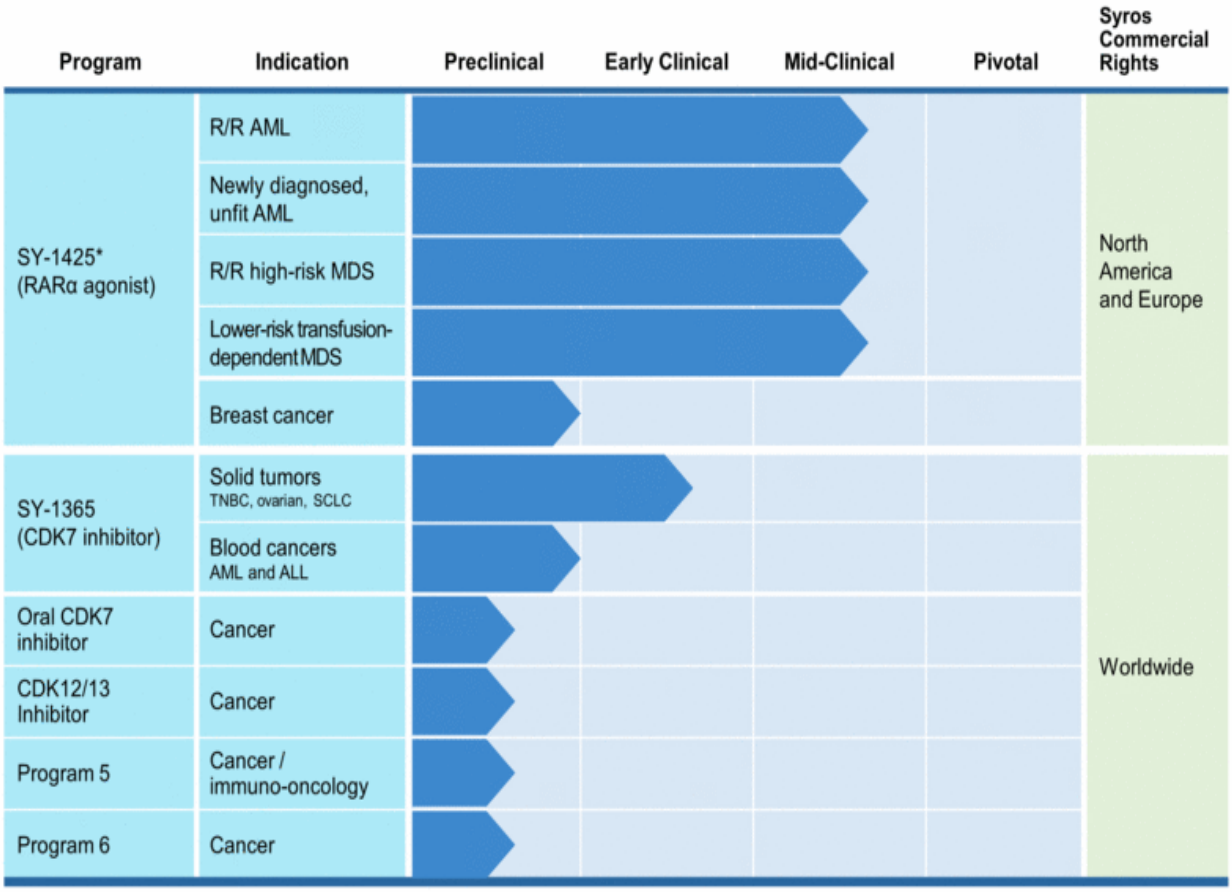


Our Programs



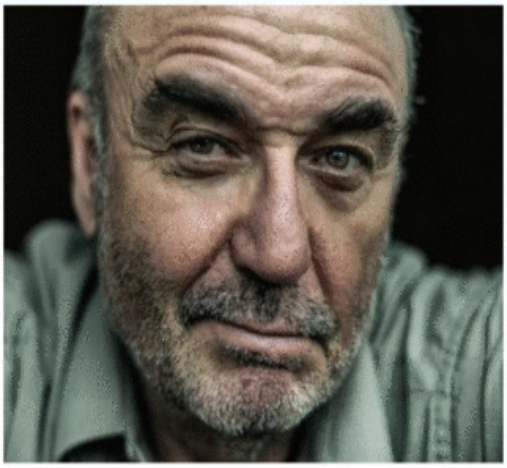
Multiple potential first-in-class programs



*SY-1425 is approved in Japan as Amnolake® (tamibarotene) for patients with relapsed/refractory APL, but is not currently approved for any use in the United States

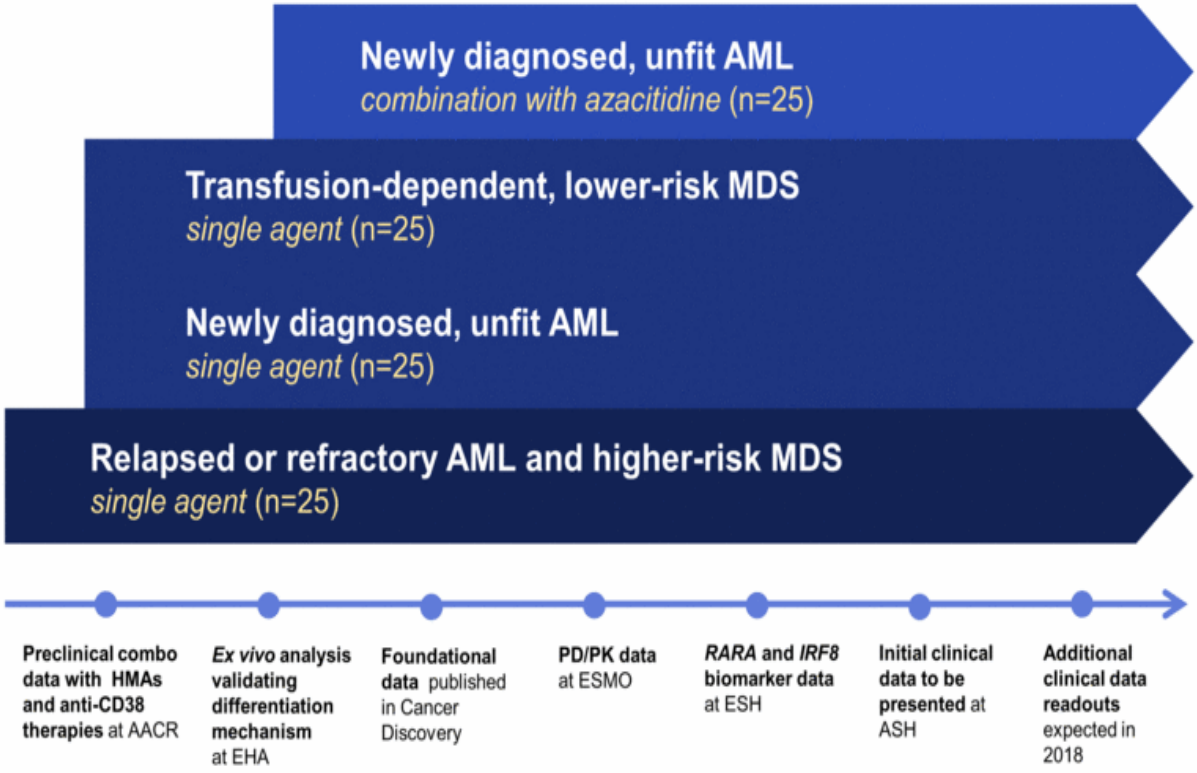
SY-1425 (RARα agonist): Driving expression of differentiation genes in cancer

Acute Myelogenous Leukemia (AML) and Myelodysplastic Syndromes (MDS)



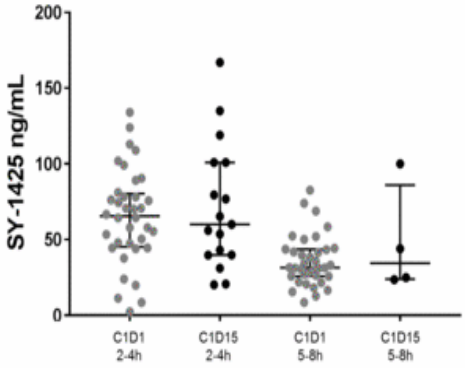
- First-in-class selective, oral RARα agonist
- Well-characterized safety and efficacy in APL, a form of AML driven by *RARA* gene fusion
  - Approved as Amnolake® (tamibarotene) in Japan since 2005 for R/R APL
  - Over 1,000 patients treated
  - Generally well tolerated, manageable and/or reversible side effects
  - Highly differentiated from ATRA on PK, selectivity and potency
- Novel biomarkers discovered by Syros for patient selection
- Opportunity for proof-of-concept in four patient populations in ongoing Phase 2 clinical trial
- Significant market potential
  - AML and MDS remain areas of high unmet need
  - Single agent and combination opportunities
  - Expansion to other cancers, including breast cancer
- Potential patent exclusivity to 2036+

Initial clinical data from ongoing Phase 2 trial in AML and MDS with *RARA* or *IRF8* biomarkers to be presented at ASH

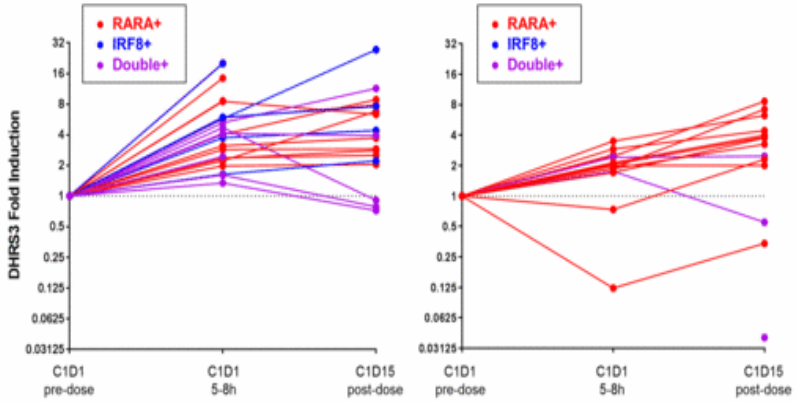


Data from ongoing Phase 2 clinical trial of SY-1425 shows favorable PK and evidence of RARα target engagement

Dosing regimen achieves anticipated drug exposure in AML and MDS patients



DHRS3 induction provides evidence of RARα target engagement

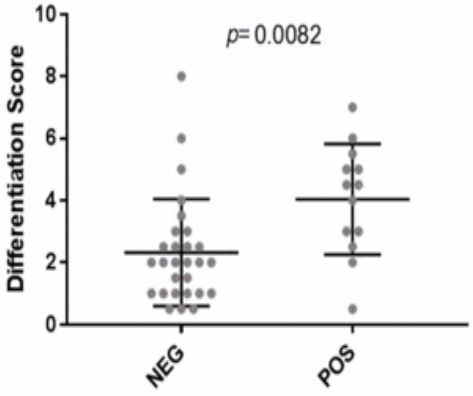


MADRID 2017 ESMO congress

"Pharmacodynamic and pharmacokinetic evaluation of SY-1425 (tamibarotene) in biomarker-selected acute myeloid leukemia (AML) and myelodysplastic syndrome (MDS) patients"

Biomarker status significantly correlated with differentiation of patient blood samples following *ex vivo* SY-1425 treatment

Differentiation based scoring algorithm



- IDE-approved clinical trial assay using qPCR for *RARA* and *IRF8* mRNA with average turnaround time of 2.8 days
- ~40% of patients screened for enrollment in Phase 2 clinical trial tested biomarker-positive*
  - One-third of relapsed or refractory AML and higher-risk MDS tested positive
  - Trending higher in lower-risk MDS and newly diagnosed AML but on small patient numbers

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"Novel RARA Pathway Activation Biomarkers in Study SY-1425-201 Define a New Subset of AML and MDS Patients and Correlate with Myeloid Differentiation"

SYROS

*Data based on 201 evaluable patients screened as of Aug. 31, 2017.

Foundational data support clinical development strategy for SY-1425 in AML and MDS subsets

- Identified six distinct patient subsets based on super-enhancer profiles, including one enriched for super-enhancer associated with *RARA*
- In preclinical studies, *RARA* super-enhancer is predictive of response to SY-1425
  - SY-1425 reduces proliferation and promotes differentiation in AML cells with high *RARA* expression, while having no effect on AML cells with low *RARA* expression
- SY-1425 induces transcriptional and epigenomic changes in AML cells with high *RARA* expression similar to those seen in APL cells treated with SY-1425
- Underscores promise of platform to provide new approach for identifying drug targets in defined patient subsets with potential to lead to more precise diagnosis and better treatment

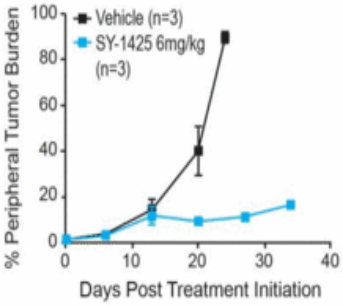
CANCER DISCOVERY

"Super-Enhancer Analysis Defines Novel Epigenomic Subtypes of Non-APL AML Including an RARα Dependency Targetable by SY-1425, a Potent and Selective RARα Agonist"

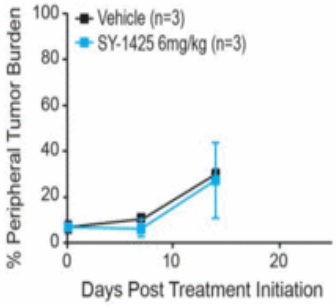
SY-1425 shows tumor growth inhibition in *RARA*-high models as single agent and in combination with standard-of-care agent

Sensitivity to SY-1425 associated with *RARA* biomarker

RARA-high AML PDX model

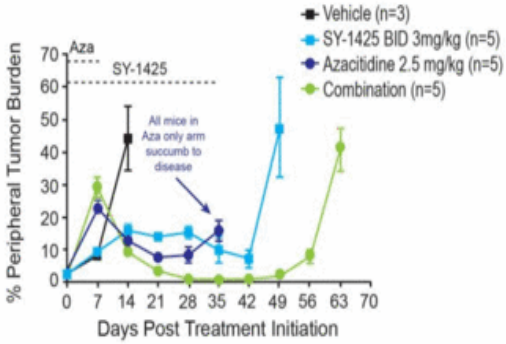


RARA-low AML PDX model



Combination with azacitidine increased tumor growth inhibition

SY-1425/Aza in *RARA*-high AML PDX model

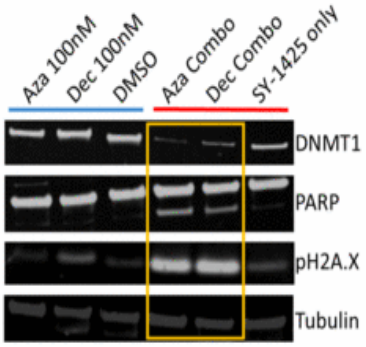


ASH 58th Annual Meeting & Exposition
San Diego, CA • December 3-6, 2016

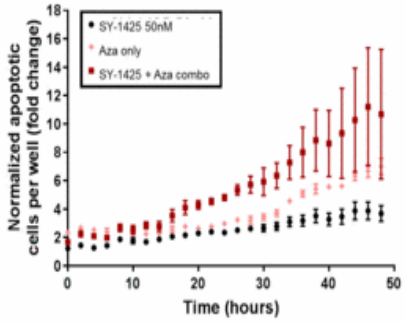
"Clinical Pharmacodynamic Markers and Combinations with SY1425 (tamibarotene) in a Genomically-Defined Subset of Non-APL AML"

SY-1425 and AZA combination show evidence of biomarker-dependent DNA damage and induction of apoptosis

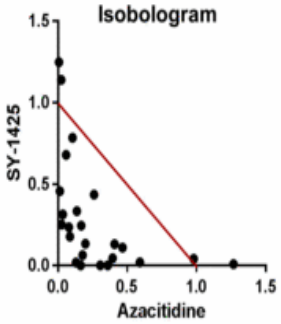
Combo induces DNA damage



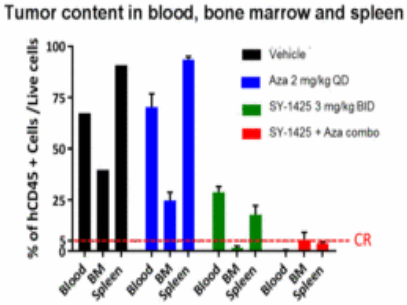
Combo induces 10-fold greater apoptosis



Combo is synergistic

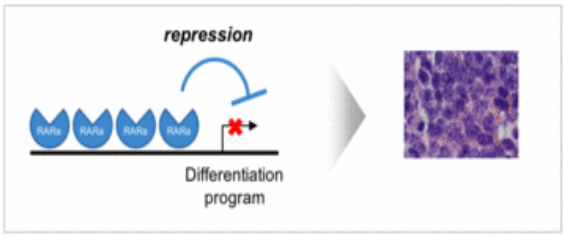


Combo leads to robust reduction of tumor cells in blood, BM and spleen

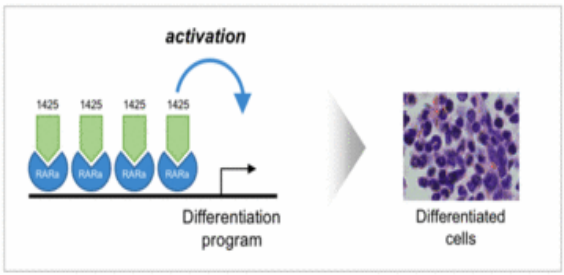


SY-1425 promotes differentiation of *RARA*-high AML cells and highly upregulates CD38

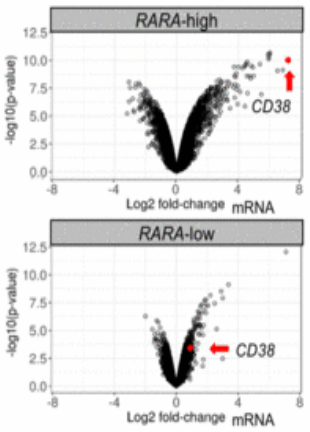
Over-expression of *RARA* represses differentiation



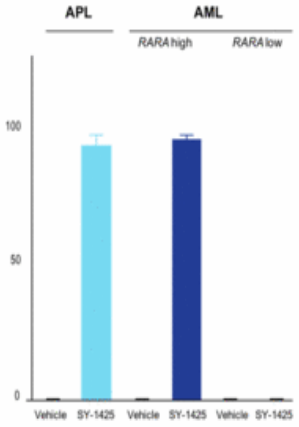
SY-1425 activates differentiation



SY-1425 induces CD38 gene expression



SY-1425 induces CD38 cell surface expression

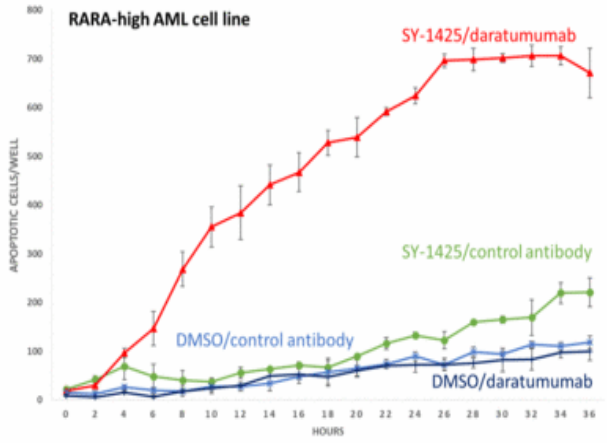


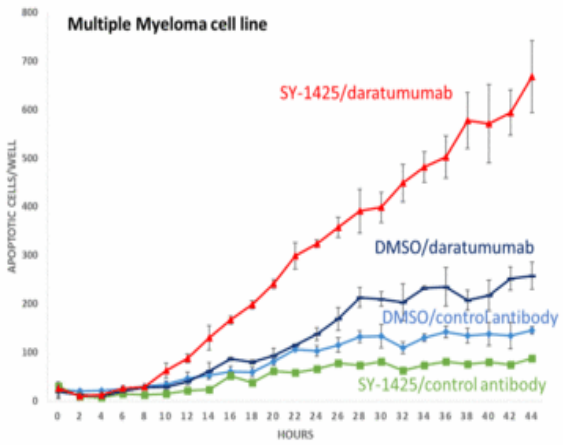
AACR American Association for Cancer Research 2017

"SY-1425, a selective RARα agonist, induces high levels of CD38 expression in RARA-high AML tumors creating a susceptibility to anti-CD38 therapeutic antibody treatment"

SY-1425 induces high levels of CD38 expression in *RARA*-high tumors creating a susceptibility to anti-CD38 therapeutic antibody treatment

Cell apoptosis

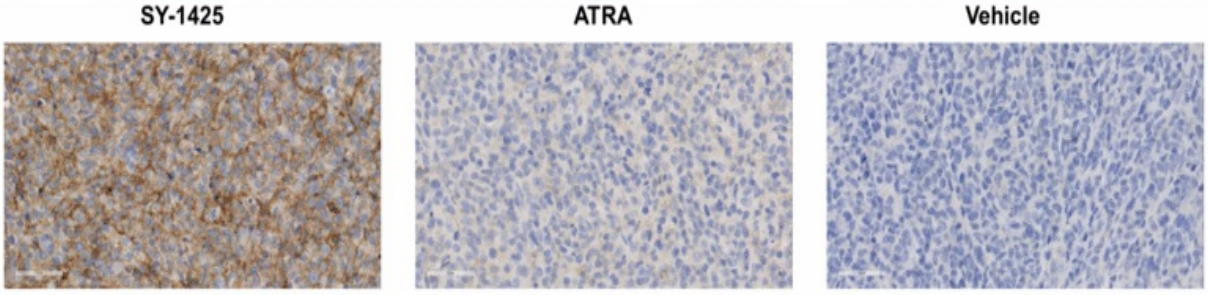




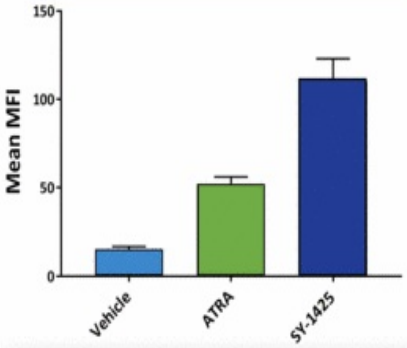
AACR American Association for Cancer Research 2017

"SY-1425, a selective RARα agonist, induces high levels of CD38 expression in RARA-high AML tumors creating a susceptibility to anti-CD38 therapeutic antibody treatment"

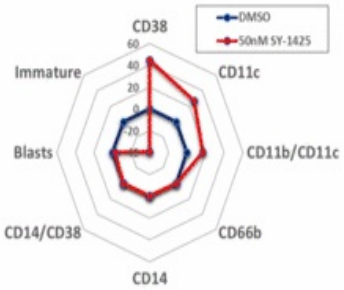
SY-1425 induces CD38 in *in vivo* preclinical model of AML and *ex vivo* in patient blood samples from Phase 2 study



Mean fluorescent intensity (MFI) by treatment



Percent composition change – radar plot



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"Novel RARA Pathway Activation Biomarkers in Study SY-1425-201 Define a New Subset of AML and MDS Patients and Correlate with Myeloid Differentiation"

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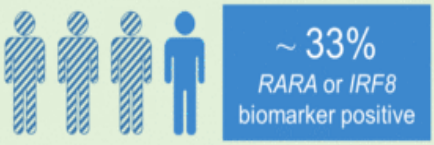
SY-1425: a potential therapy for AML and MDS patients with *RARA* or *IRF8* biomarkers

Significant need for well-tolerated oral therapies that extend survival and improve quality of life

AML incidence[1]: ~33,000

MDS incidence[1]: ~32,000



Newly diagnosed

- Only 40% younger, healthy patients achieve long-term remission
- Only 10% unfit, older patients receive achieve long-term remission
- Majority of patients relapse over time, with 5-year overall survival of 27%[2]

Relapsed or refractory

- Few treatment options with no approved agents
- Patients progress quickly in relapsed setting with few treatment options

Newly diagnosed lower-risk

- Quality of life is significantly impacted by chronic anemia and fatigue, despite existing therapies
- >50% of patients require transfusions leading to increased hospitalizations and reduced survival
- Overall survival of 6 years

Relapsed or refractory higher-risk

- >80% of newly diagnosed patients relapse over time
- Few treatment options
- Survival of less than 1 year

1. Incidence figures include annual diagnoses in the U.S., Canada and the EU 5 (UK, Germany, France, Spain and Italy); 2. ~30% of patients relapse annually

Sources: *Leukemia Research* 52 (2017) 50–57; Expert Rev. *Pharmacoecon.* Outcomes Res. Early online, 1–10 (2015); *Clinical Lymphoma Myeloma and Leukemia* 11 (1), 2011, 10–16; *Leukemia.* 2015 April ; 29(4): 770–775, SEER, American Cancer Society.

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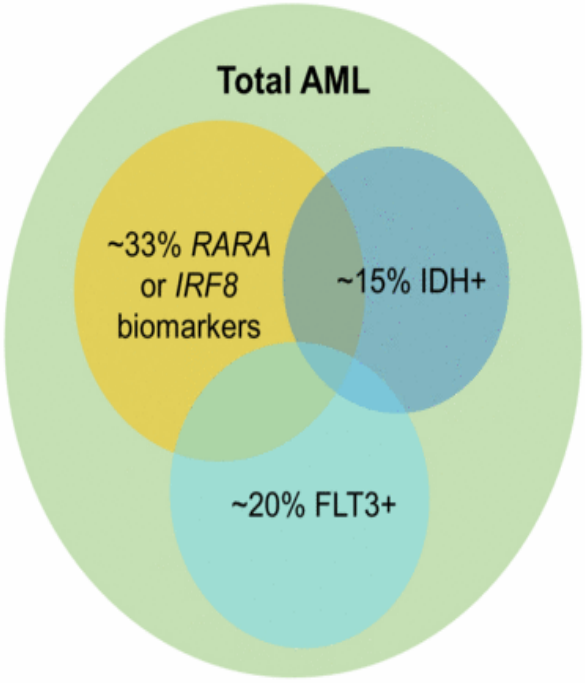
RARA and *IRF8* biomarkers and SY-1425 opportunity cut across mutational landscape

Unique mechanism points to potential for combinations with chemo and targeted agents without anticipated overlapping toxicities

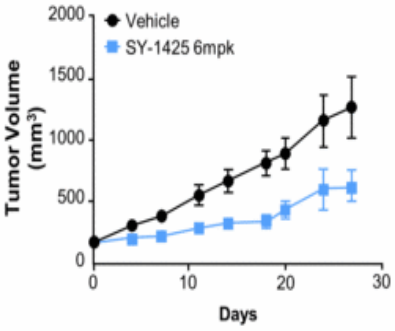


Estimated frequency of *RARA* and *IRF8* biomarkers based on Syros' analysis of available AML patient tissue samples, and estimated frequency of IDH and FLT3 mutations based on published studies

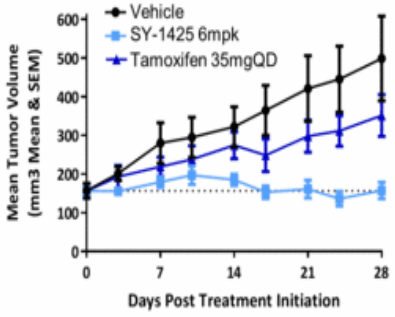
Potential to expand to other tumors with *RARA* biomarker, including estimated 35% of breast cancer

SY-1425 inhibits tumor growth as single agent in drug resistant *RARA*-high models

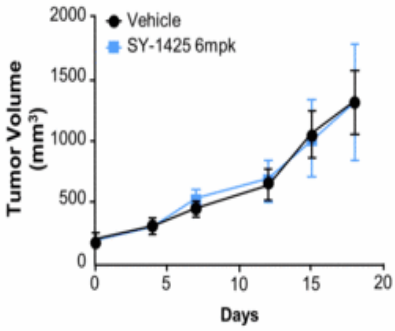
***RARA*-high CDX, trastuzumab resistant**



***RARA*-high PDX, Relapsed ER+**



***RARA*-low PDX**



SY-1425 in combination with standard-of-care breast cancer therapies

- SY-1425 shows synergy *in vitro* with standard-of-care agents, including lapatinib, palbociclib and tamoxifen
- *In vivo* experiments of SY-1425 in combination currently planned

SAN ANTONIO BREAST CANCER SYMPOSIUM

"A novel subgroup of estrogen receptor positive breast cancer may benefit from super-enhancer guided patient selection for retinoic acid receptor α agonist treatment"

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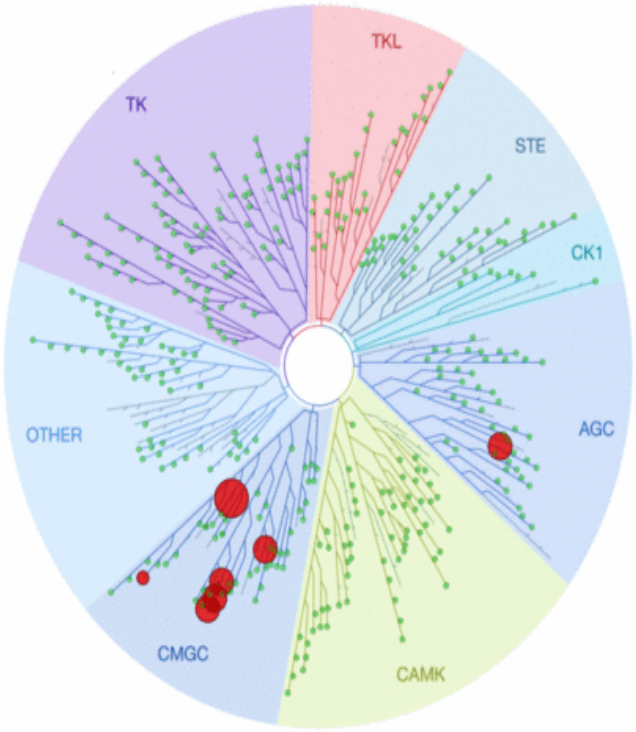
SY-1365 (CDK7 inhibitor): Controlling expression of oncogenic transcription factors

Difficult-to-treat solid tumors and blood cancers

- First-in-class selective inhibitor of CDK7
- Lowers expression of oncogenic transcription factors, including MYC
- CDK7 inhibition induces apoptosis and preferentially kills cancer cells over non-cancerous cells
- Dosing initiated in Phase 1 clinical trial of patients with advanced solid tumors
- Initial clinical data expected in 2018
- Significant market potential
  - Promising approach in range of difficult-to-treat cancers driven by abnormal transcription
  - Single agent and combination therapy opportunity

SY-1365 is a first-in-class potent and selective CDK7 inhibitor

DiscoveRx kinome scan at 1μM SY-1365



- Covalent
- Highly potent
  - Enzymatic IC50 = 22 nM
  - Cellular IC50 < 20 nM
- Rapid clearance (1-3 hours) with sustained PD effect (55-hour half-life)*
- Does not significantly bind to CDK9 or cell cycle CDKs

7/468 kinases exhibit >90% binding

Gene	% Control
CDK7	0.25
RSK4	2
DYRK1B	2.6
JNK3	2.7
JNK1	2.8
JNK2	3
CDK15	10

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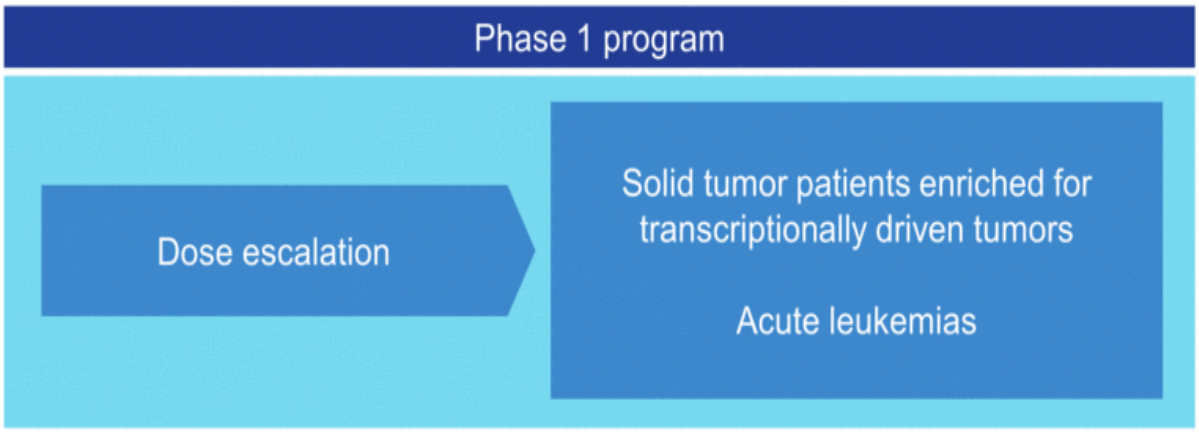
*In-house analysis

Dosing initiated in Phase 1 trial of SY-1365 in patients with advanced solid tumors

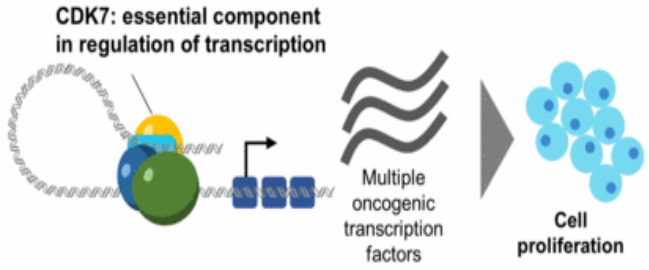


- Initiated Phase 1 trial in advanced solid tumor patients in May 2017, one month following IND clearance
  - Dose escalation phase open to all-comers
  - Expansion cohorts enriched for transcriptionally dependent tumors, including triple-negative breast, ovarian and small cell lung cancer
- Plan to use target engagement and downstream assays for proof-of-mechanism
  - Strong *in vivo* correlation seen between target engagement and efficacy
  - Target engagement assay to guide dose and schedule optimization
- Plan to use platform to identify biomarkers to predict patients most likely to respond

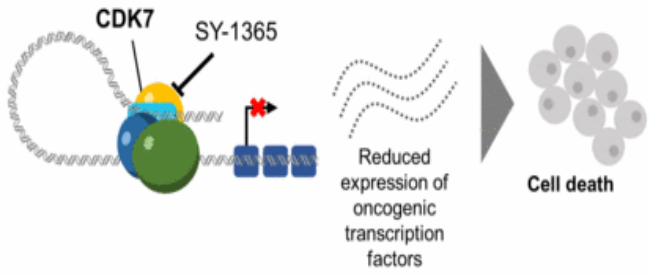
CDK7 inhibition: powerful approach to target transcriptionally driven cancers

Transcriptional addiction: certain cancers become dependent on increased expression of disease-driving transcription factors

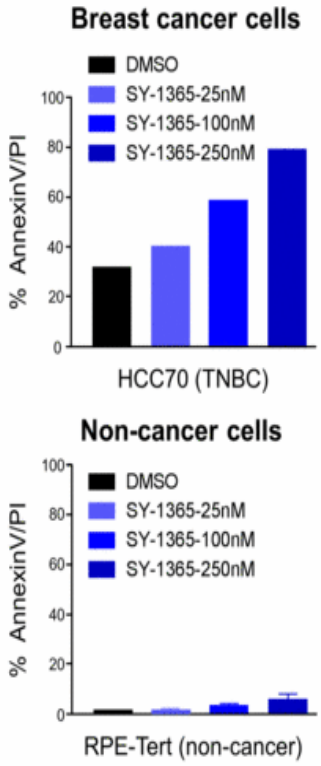
CDK7 is a key player in driving transcription



Inhibiting CDK7 decreases expression of oncogenic TFs



SY-1365 induces apoptosis in cancer cells but not in non-cancer cells



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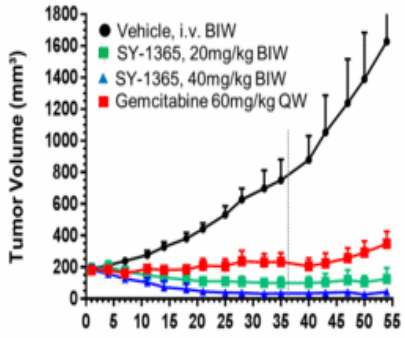
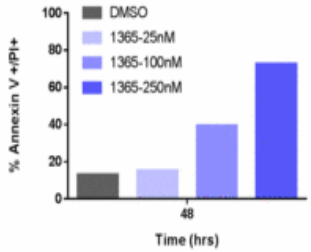
SY-1365 shows tumor growth inhibition including regressions in TNBC and ovarian xenograft models

SY-1365 shows anti-tumor and apoptotic activity in TNBC models

HCC70

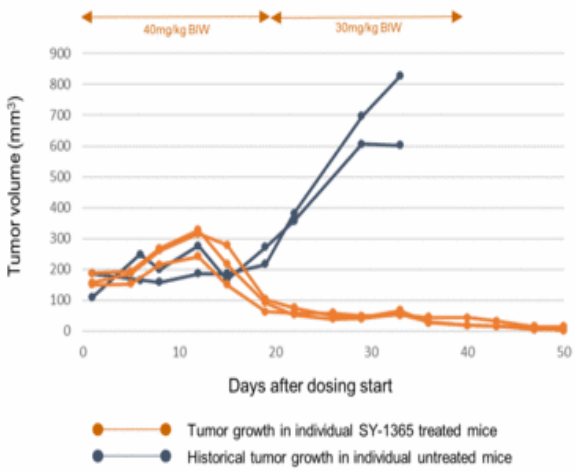


In vitro apoptosis



SY-1365 leads to sustained regressions in chemo-relapsed ovarian cancer models

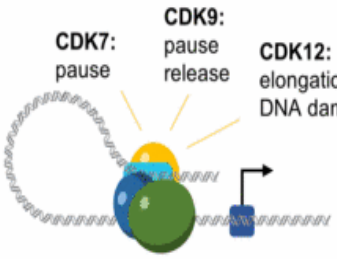
OV15398 PDX



Internal data on file

CDK12 program builds on transcriptional kinase expertise

Transcriptional CDKs have related but distinct functions

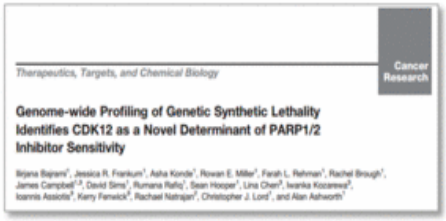


Strong preclinical studies support broad potential of CDK12 inhibition

- Cancers heavily dependent on RNA processing (large transcripts)
- BRCA mutated cancers (ovarian, prostate, breast) – combination with PARP inhibitors
- Other cancers where CDK12 inhibition could create BRCA mutant-like states termed "BRCAness"

AACR American Association for Cancer Research 2017

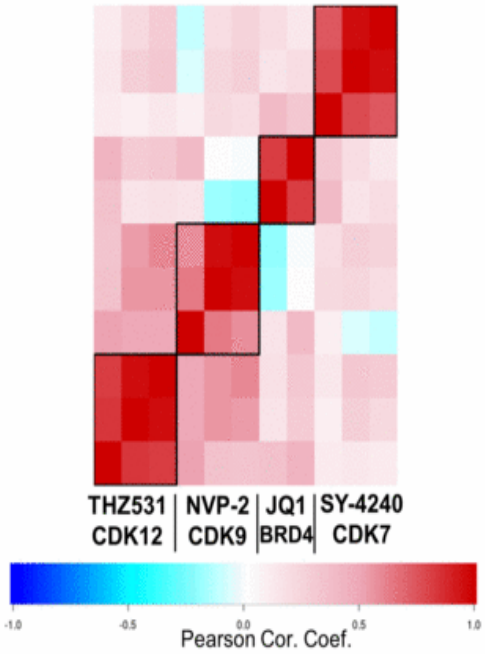
"Targeting the transcriptional kinases CDK12 and CDK13 in breast and ovarian cancer"


Therapeutics, Targets, and Chemical Biology

Cancer Research

Genome-wide Profiling of Genetic Synthetic Lethality Identifies CDK12 as a Novel Determinant of PARP1/2 Inhibitor Sensitivity

A distinct set of genes is regulated by different transcriptional inhibitors



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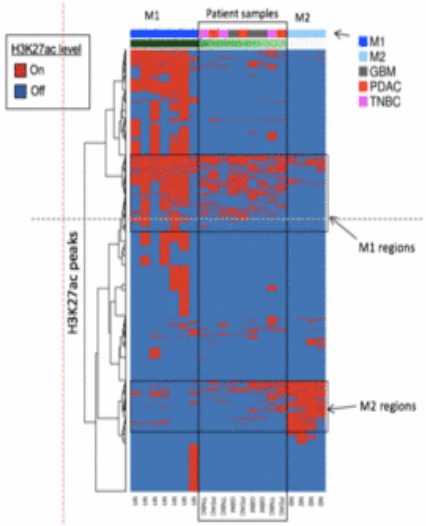
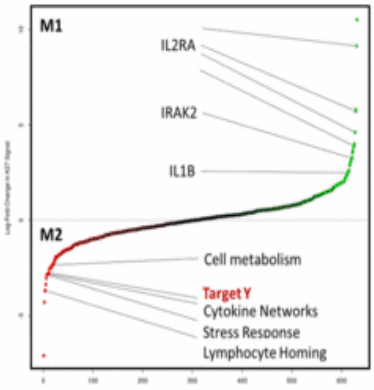
Immuno-oncology strategy: modulate tumor and immune cells to pro-inflammatory state

- Generated gene regulatory profiles of tumor cells, macrophages and T cells from tumors (breast, ovarian, pancreatic)
- Identified targets on tumor and immune cells for modulation
- Validated macrophage target and inhibitor that switches macrophages to pro-inflammatory state

Small molecule inhibitor switches immunosuppressive macrophages to pro-inflammatory state

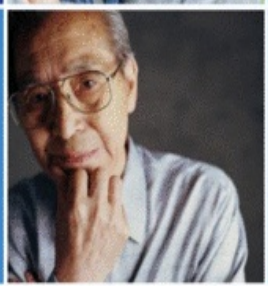




Immune cell type	Change IFNγ
CD14 naive	--
CD14 naïve*	21x
M1*	61x
M2*	6x
M2 + inhibitor*	61x

*denotes addition of activated CD8 cells

Company Building



Goal to pursue strategic collaborations to maximize potential of our gene control platform

Strategic Collaborations

Target, Biomarker & Drug Discovery

Opportunity

- Leverage platform potential across multiple therapeutic areas
- Monetize platform in areas outside of Syros core strategic focus
- Leverage partnerships to continue building infrastructure

Current focus areas for business development

- Oncology, including rare cancers
- Immuno-oncology
- Autoimmune
- Rare genetic diseases

SY-1425 & SY-1365

Opportunity

- Expand geographic reach
- Broaden and accelerate development

Requirements

- Maintain development and commercialization rights and control in North America
- Execute at value inflection points to maximize financial return to Syros

In-licensing

Clinical-Stage Product Candidates

- Opportunity to accelerate platform insight into clinical development
- Leverage proprietary repository of gene regulatory profiles of patient disease tissue
- Identify novel genomically defined subsets for patient selection and stratification

Investment balanced across clinical pipeline, discovery programs and platform to achieve short- and long-term goals

- Drive SY-1425 and SY-1365 to key value creating milestones
- Maintain platform investment with goal to:
  - Deliver one new IND every other year on average
  - Build on leadership in gene control

Capital as of 6/30/2017

~$91.5M

Cash, cash equivalents, marketable securities

2017 operating expense estimate

~$55M GAAP

~$50M cash burn

2016 accomplishments set stage for breakthrough 2017

2017 goals

- Advance one oncology/IO program to non-GLP tox for 2019 IND
- Enhance platform to single gene expression modulation for rare cancers and genetic diseases

SY-1425

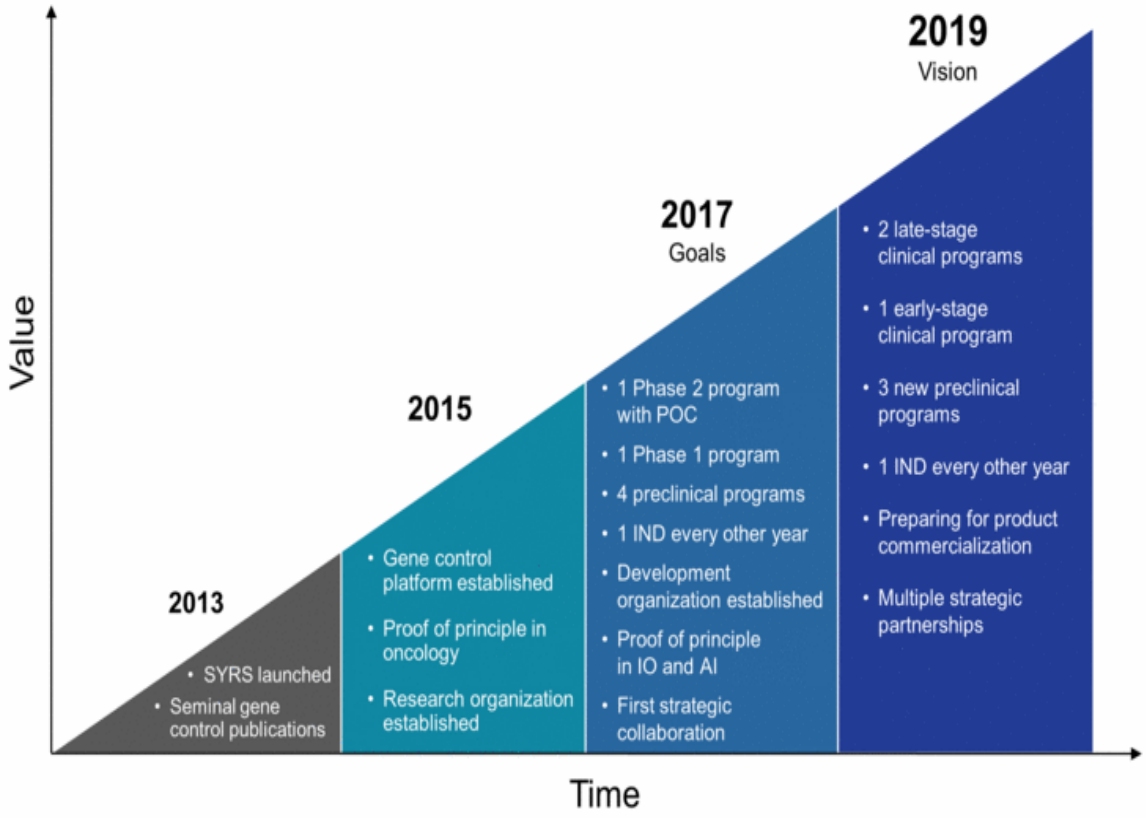
- Present Phase 2 PD and clinical data
- Expand ongoing trial into EU
- ✓ Initiate combination dosing arm in ongoing trial

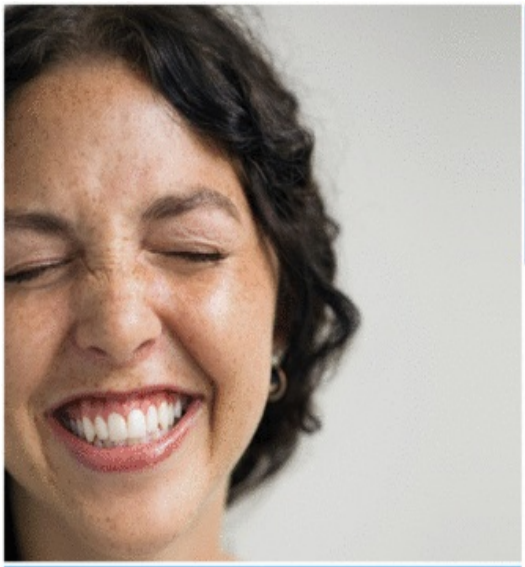
SY-1365

- ✓ Initiate Phase 1 trial

- Establish at least one strategic collaboration around program or platform
- Manage operating expense

Rapidly advancing toward our vision





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expression makes a world of difference