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This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as "may," "will," "expect," "plan," "anticipate" and similar expressions (as well as other words or expressions referencing future events or circumstances) are intended to identify forward-looking statements. All statements other than statements of historical facts contained in this presentation, including statements regarding future operations, financial results and the financial condition of Syndax Pharmaceuticals, Inc. ("Syndax" or the "Company"), including financial position, strategy and plans, the progress, timing, clinical development and scope of clinical trials and the reporting of clinical data for Syndax's product candidates, and Syndax's expectations for liquidity and future operations, are forward-looking statements. Many factors may cause differences between current expectations and actual results, including unexpected safety or efficacy data observed during preclinical or clinical studies, clinical site activation rates or clinical trial enrollment rates that are lower than expected, changes in expected or existing competition, failure of our collaborators to support or advance collaborations or product candidates and unexpected litigation or other disputes. Moreover, Syndax operates in a very competitive and rapidly changing environment. Other factors that may cause our actual results to differ from current expectations are discussed in Syndax's filings with the U.S. Securities and Exchange Commission, including the "Risk Factors" sections contained therein. New risks emerge from time to time. It is not possible for Syndax's management to predict all risks, nor can Syndax assess the impact of all factors on its business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statement. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this presentation may not occur and actual results could differ materially and adversely from those anticipated or implied. Except as required by law, neither Syndax nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. Syndax undertakes no obligation to update publicly any forward-looking statements for any reason after the date of this presentation to conform these statements to actual results or to changes in Syndax's expectations.

Reimagining Cancer Treatment

Syndax

Determined to realize a future in which people with cancer live longer and better than ever before

LADENBURG THALMANN 2016 HEALTHCARE CONFERENCE •

Strong leadership team

Spearheaded by leading oncology drug developer

CHIEF EXECUTIVE

Briggs W. Morrison, M.D.
Chief Executive Officer

PRIOR EXPERIENCE

AstraZeneca — CMO, Exec. VP, Global Medicines Dev.

Pfizer — Head of Medical Affairs, Safety and Regulatory Affairs

MERCK — Clinical development of all novel anti-cancer drugs

President, COO	CTO, Co-Founder	Chief Development Officer	Chief Financial Officer
			
Michael A. Metzger	**Peter Ordentlich, Ph.D.**	**Michael L. Meyers, M.D., Ph.D.**	**Allan L. Shaw**
Regado Biosciences Mersana Forest Laboratories, Inc.	X-CEPTOR SALK INSTITUTE FOR BIOLOGICAL STUDIES	Johnson & Johnson Aventis Schering-Plough	A&M VIVUS AKARI THERAPEUTICS serono biotech & beyond

Company Strategy

Entinostat Breast Cancer

Entinostat Immuno-oncology

New molecules

Financing & Staffing

With an expected IND filing in 2016, two potential best-in-class molecules in clinical studies

		Preclin	Ph 1	Ph 2	Ph 3	Indication
Entinostat (HDAC inhibitor)	Ph 3 trial in combination with hormone therapy					HR+ MBC
	Three trials exploring five PoC indications in combination with PD(L)-1 antibodies					NSCLC, melanoma, TNBC, ovarian
	Multiple IST/NCI sponsored trials testing immuno-oncology combos					Solid tumors
SNDX-6352 (Anti-CSF-1R)	Trials initiating 4Q2016					Solid tumors

HR+ MBC = hormone receptor positive metastatic breast cancer; NSCLC = non-small cell lung cancer; TNBC = triple negative breast cancer; IST = investigator sponsored trial; NCI = National Cancer Institute

Company Strategy

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Entinostat Immuno-oncology

New molecules

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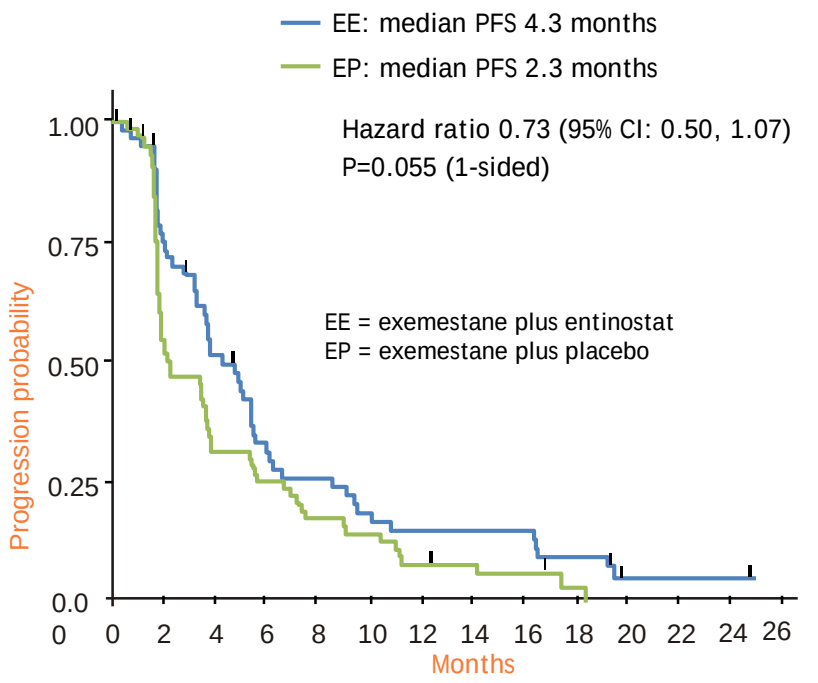
Phase 2 trial resulted in breakthrough therapy designation for entinostat + Aromasin® in advanced HR+ breast cancer

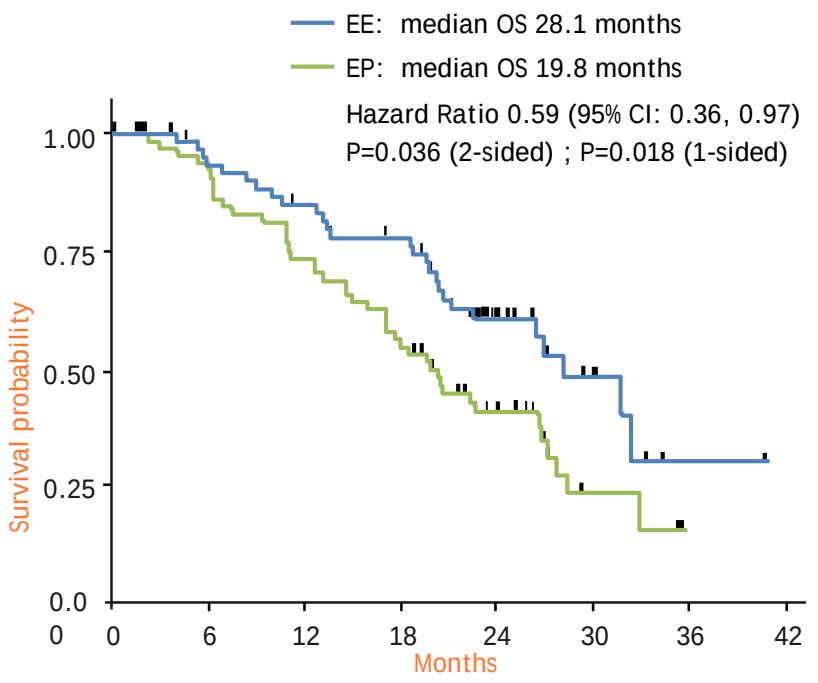
Progression-Free Survival



Placebo	31/66	13/33	4/20	5/16	2/11	4/9	0/5	1/4	1/3	1/1	0/0	0/0	0/0
Entinostat	15/64	14/45	11/29	3/17	4/14	2/10	0/8	0/8	3/8	2/5	0/1	0/1	0/1

(#events / #at risk)

Overall Survival



Placebo	4/66	13/60	12/47	8/35	5/18	1/3	0/0
Entinostat	4/64	5/55	4/49	9/43	3/21	2/9	0/1

(#events / #at risk)

Source: Yardley, Denise A., et al. Journal of Clinical Oncology 31.17 (2013): 2128-2135.

Entinostat-exemestane combination is generally well tolerated

Adverse Event[(a)]	Exemestane + Entinostat (N=63)			Exemestane + Placebo (N=66)		
	Any Grade (G) n (%)	G3 n (%)	G4 n (%)	Any Grade (G) n (%)	G3 n (%)	G4 n (%)
Fatigue	30 (48%)	7 (11%)	1 (2%)	17 (26%)	2 (3%)	–
Nausea	25 (40%)	3 (5%)	–	10 (15%)	1 (2%)	–
Neutropenia[(b)]	19 (30%)	8 (13%)	1 (2%)	–	–	–
Vomiting	13 (21%)	3 (5%)	–	3 (5%)	–	–
Headache	9 (14%)	3 (5%)	–	7 (11%)	–	–
Hypophosphataemia	4 (6%)	3 (5%)	–	3 (5%)	1 (2%)	–

(a) Grade 3 and 4 AEs occurring in >5% in exemestane plus entinostat group; Safety Population; Treatment-emergent AEs, regardless of treatment-attribution

(b) None of these eight grade 3 and 4 patients experienced febrile neutropenia or associated infections during the time of the neutropenia. One patient with non-measurable bone-only disease was given a myeloid growth factor for neutrophil support; patient had history of neutropenia and growth factor usage.

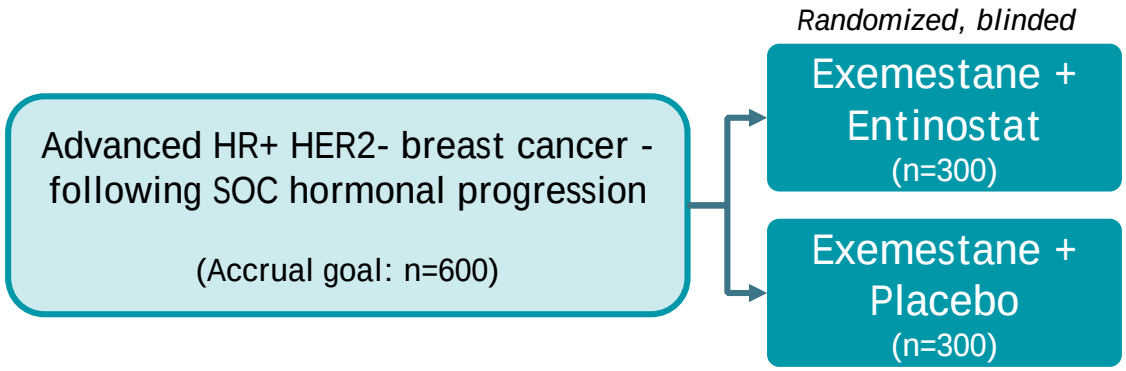
Source: Yardley, Denise A., et al. *Journal of Clinical Oncology* 31.17 (2013): 2128-2135.

E2112

Phase 3 registration trial in advanced HR+, HER2- breast cancer patients

Exemestane +/- Entinostat

ECOG-ACRIN cancer research group
Reshaping the future of patient care



Treatment Cycle (28 days)

- Exemestane (25 mg): PO, days 1-28
- Entinostat/Placebo (5 mg): PO, d: 1, 8, 15, 22

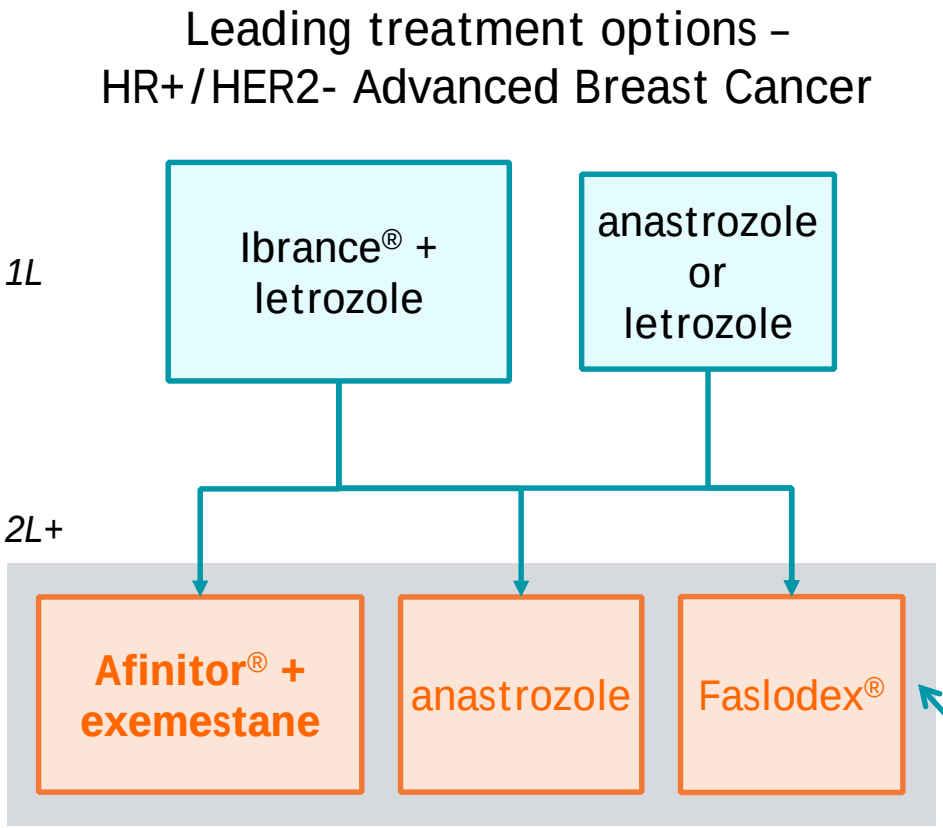
Treatment cycles continue until disease progression or unacceptable toxicity

Enrollment has exceeded 50% of the accrual goal

Trial Highlights:

- FDA reviewed trial under SPA process
- Two primary endpoints: PFS and OS
- PFS readout is expected no sooner than 2H 2017
- Combination has been granted Breakthrough Therapy Designation by the FDA

Second-line HR+ metastatic breast cancer may represent a significant market opportunity



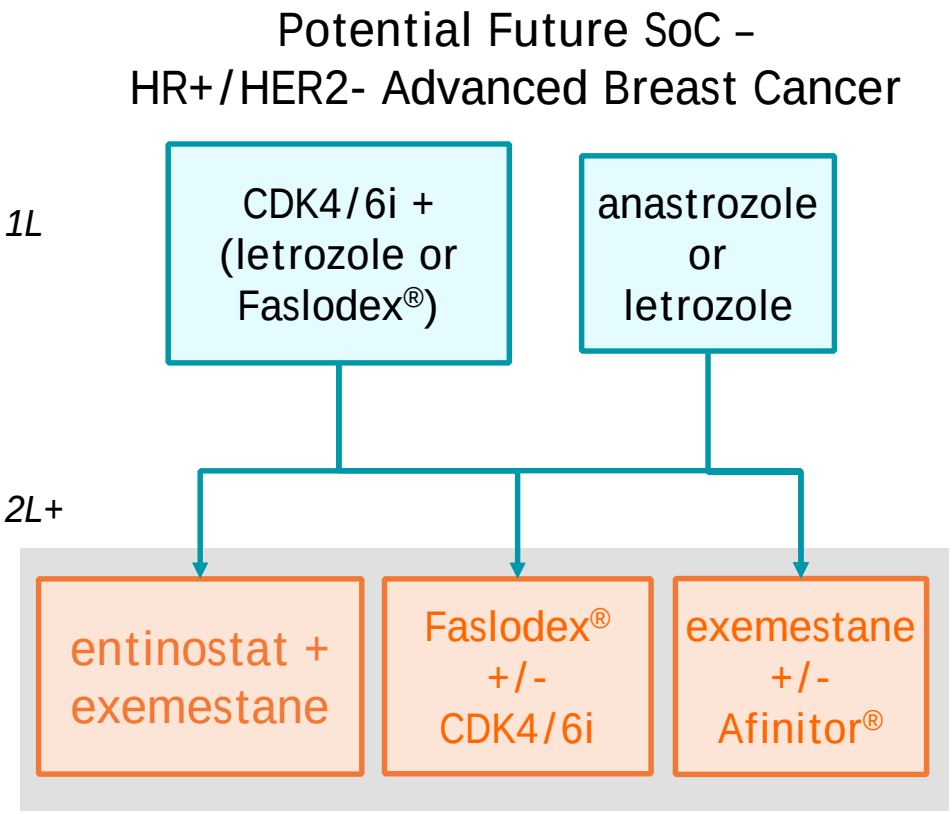
- CDK4/6 inhibitor Ibrance® rapidly became a first-line (1L) standard-of-care (SoC)
- Afinitor + exemestane most common second-line (2L) combination despite toxicity and lack of an OS benefit

~34,000 patients receive hormone therapy[1] after 1st line

[1]LEK estimate

Source: DataMonitor 2016 Breast cancer: HR+/HER2- Disease Coverage Report

Entinostat could supplant Afinitor with a survival benefit



- Additional CDK4/6 inhibitors primarily compete in 1L
- Entinostat + exemestane likely becomes 2L SoC with positive OS

No other combination has shown an OS advantage over hormone therapy alone

Source: DataMonitor 2016 Breast cancer: HR+/HER2- Disease Coverage Report; Novartis 2Q15 earnings presentation

Company Strategy

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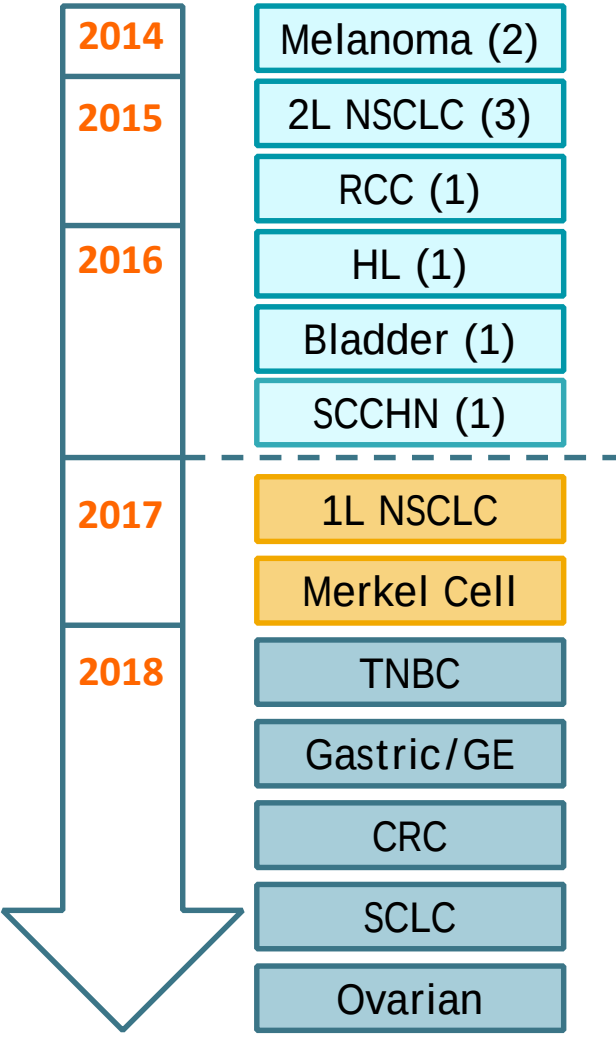
New molecules

Financing & Staffing

Immuno-Oncology (IO) is rapidly defining new therapeutic standards



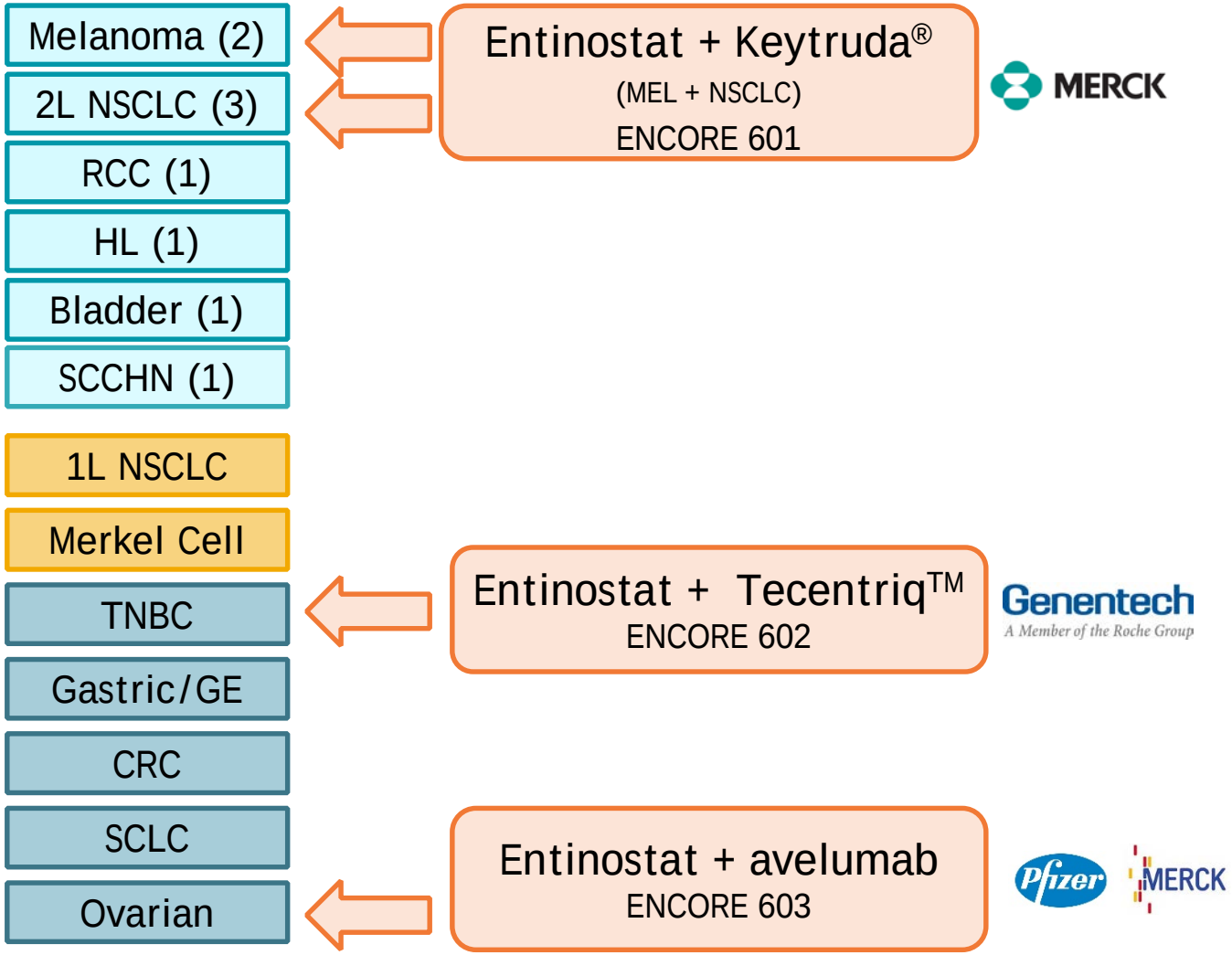
- Since late 2014, three PD(L)-1inhibitors have received nine FDA approvals for six different tumors

- Recent data suggest additional approvals in 2017
  - Head and neck: Opdivo® trial stopped early
  - 1L PDL-1+ NSCLC: Positive PFS and OS for Keytruda®
  - Merkel Cell: Avelumab filing with Phase 2 data

- Phase 3 results expected in six new tumor types as well NSCLC and melanoma in 2017 and 2018

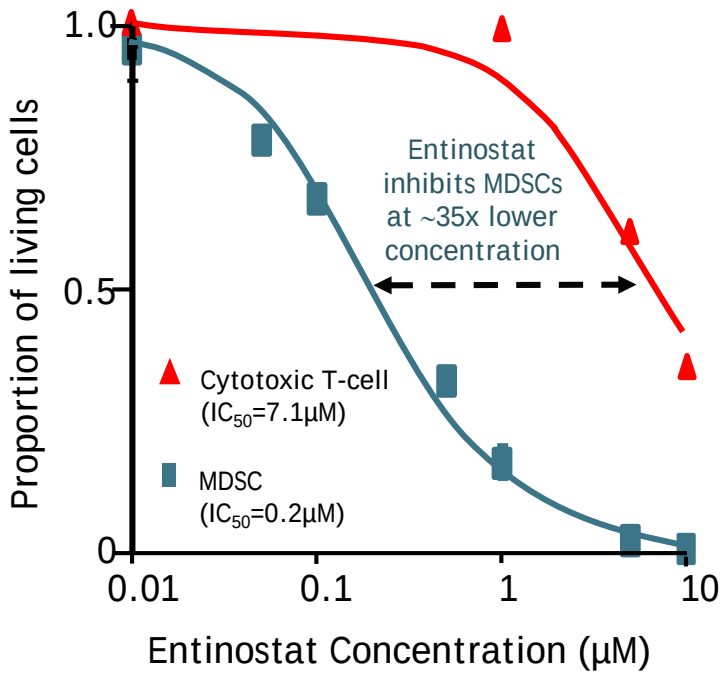
Source: clinicaltrials.gov; company press releases

Immuno-Oncology (IO) is rapidly defining new therapeutic standards

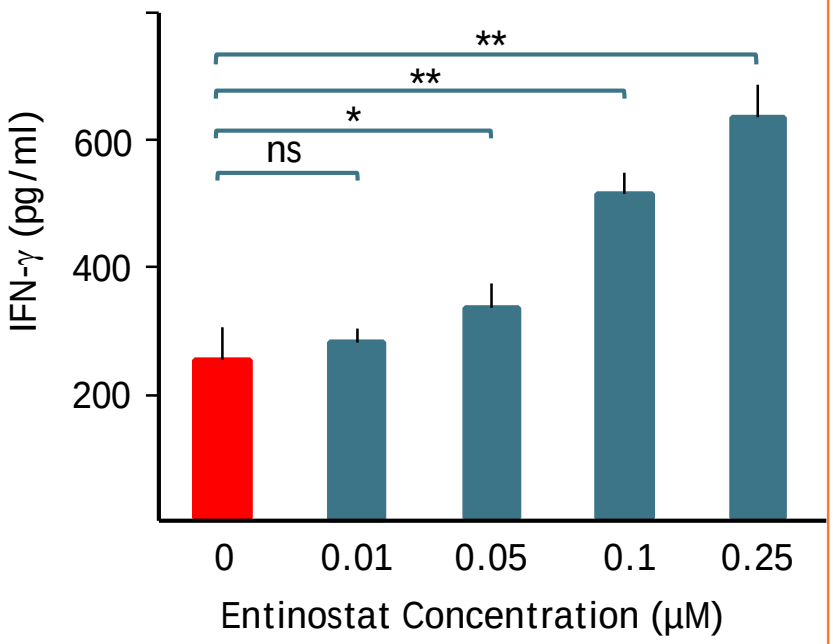


Entinostat inhibits immuno-suppressive cells by reducing their proliferation and function

Entinostat reduces MDSC growth at concentrations that spare cytotoxic T-cells



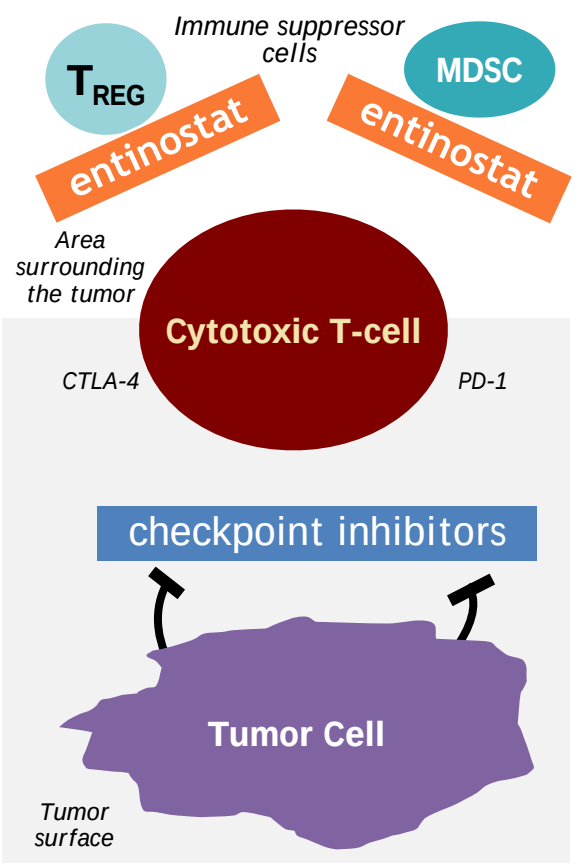
Entinostat inhibits MDSCs function restoring interferon gamma (IFNγ) secretion by cytotoxic T-Cells



* P < 0.05, ** P < 0.01, ns, not significant

Source: Kim, et al. PNAS 111.32 (2014): 11774-11779

Entinostat's differentiated mechanism targets immuno-suppressive tumor microenvironment



Myeloid-derived suppressor cells (MDSCs)

- Suppress cytotoxic T-cells
- Levels increased in cancer patients
- Higher levels correlate with poor prognosis
- Higher levels correlate with poor response to checkpoint inhibitors

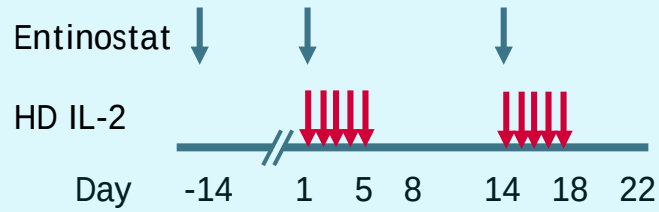
Regulatory T-cells (Tregs)

- Suppress cytotoxic T-cells
- Recruited and activated by cancer cell
- Higher levels correlate with poor prognosis
- Higher levels correlate with poor response to checkpoint inhibitors

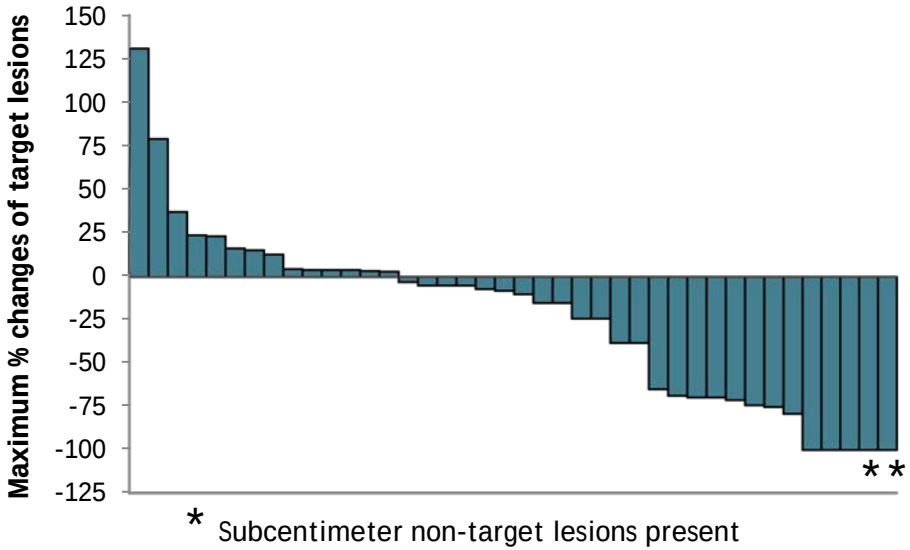
Entinostat may increase anti-tumor effect of high dose IL-2 by modulating immuno-suppressive cells

NCI-7870 Phase 1b/2 Entinostat + High Dose IL-2 in Metastatic Renal Cell Carcinoma

- Is response rate of combo greater than IL-2 alone? (ORR 20%)
- Dosing
  - Entinostat: 3 or 5 mg P.O.
  - HD IL-2: 600,000 U/kg Q8hr



- 41 patients evaluated



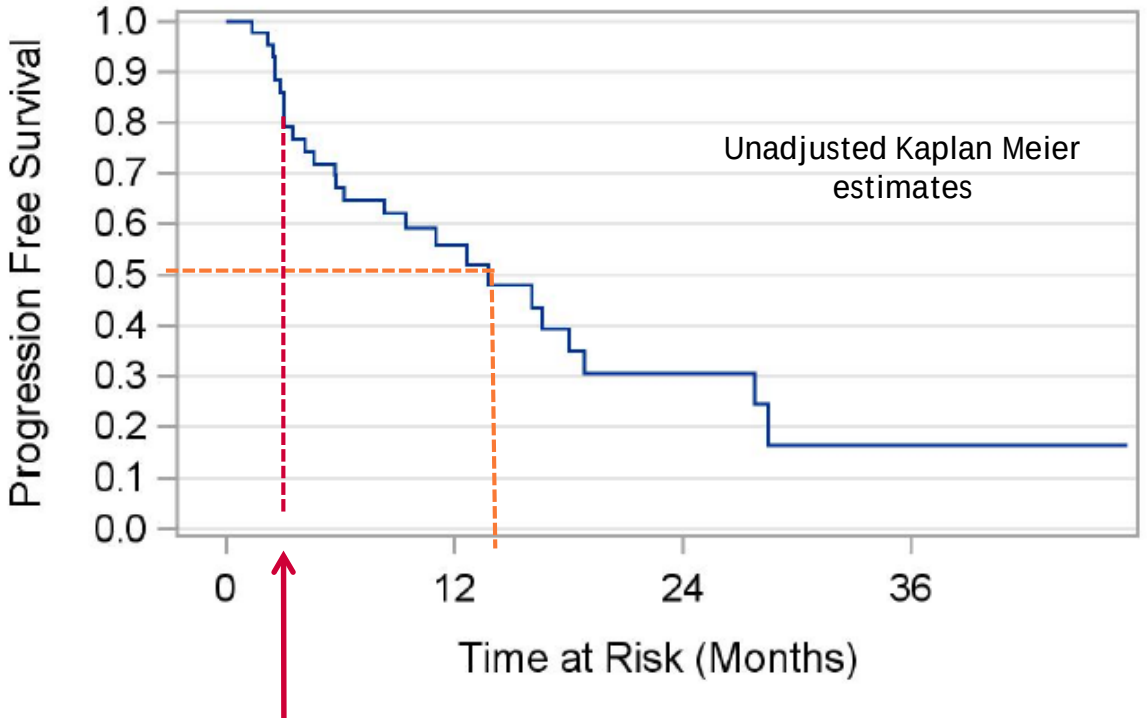
* Subcentimeter non-target lesions present

- Overall Response rate 37% (95% CI 22-53%)
- CR 7% (n = 3)
- PR 29% (n = 12)
- SD > 6 mos 22% (n = 9)

Source: Pili R et al ASCO 2016

Entinostat, IL-2 combination appears to substantially increase median PFS over IL-2 alone

Entinostat – Proleukin median PFS = 13.8 mos [95% CI 6.2,18.8]



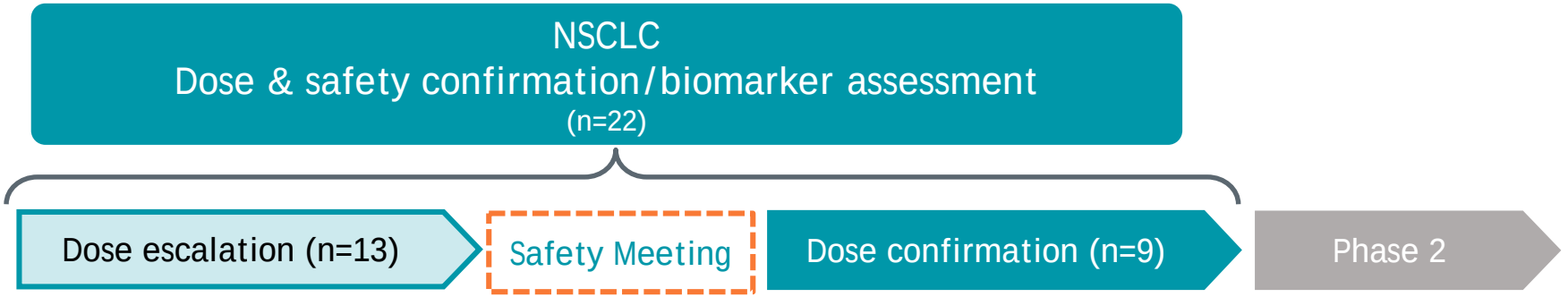
Source: Pili R et al ASCO 2016

ENCORE 601

First signal-seeking trial

KEYTRUDA® + Entinostat MERCK

Phase 1b:
open-label



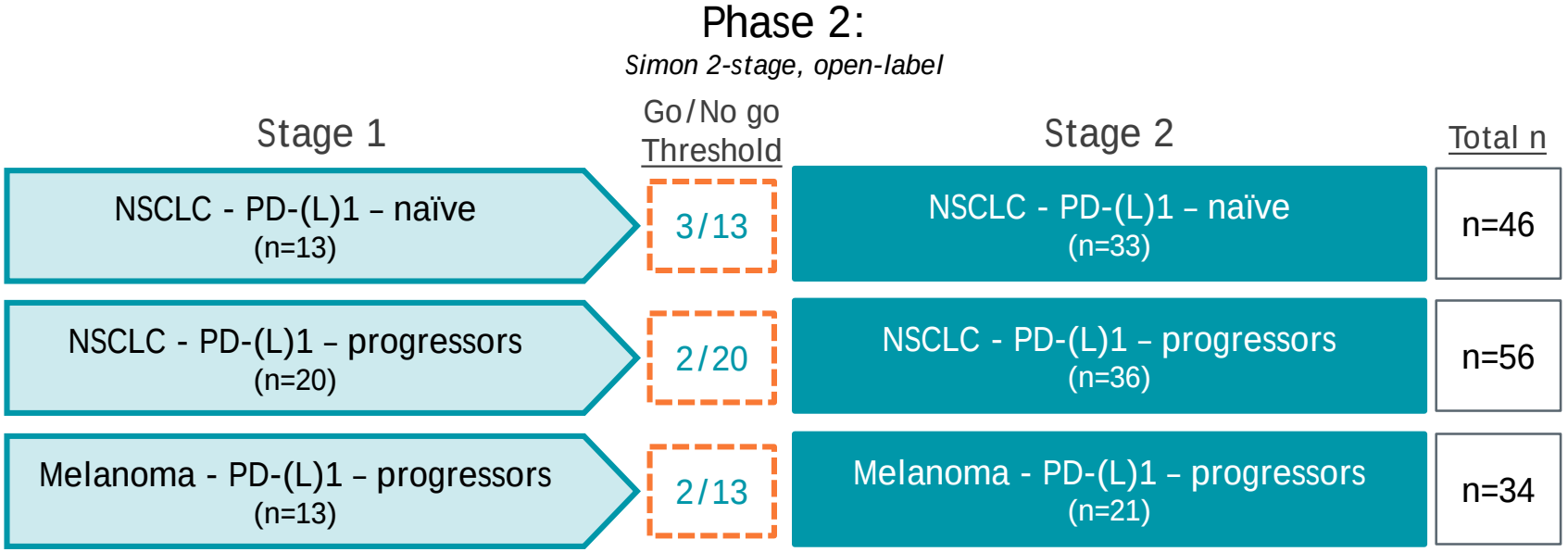
Phase 1Trial Milestones:

- Completed accrual for dose escalation stage (3mg and 5mg)
- Positive safety assessment made; 5mg dose progressed
- Dose confirmation safety assessment complete
- Phase 1b data presentation anticipated Q4 2016

ENCORE 601

First signal-seeking trial across 3 indications

KEYTRUDA® + Entinostat



Phase 2 Trial Milestones:

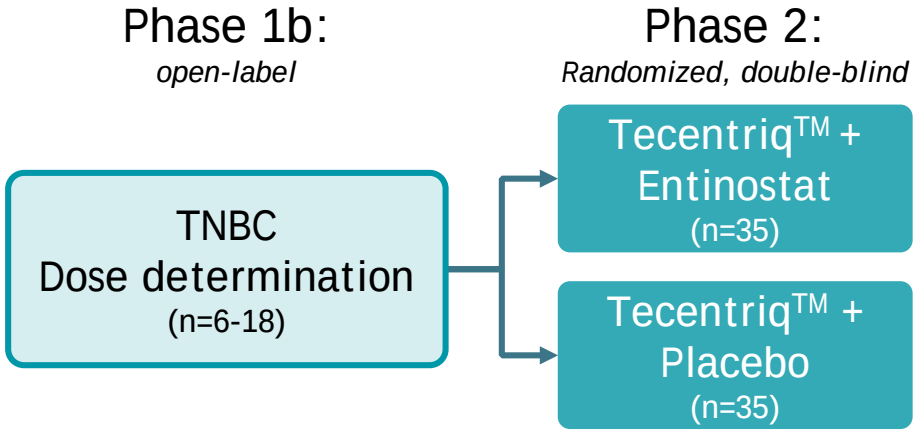
- Phase 2 patient enrollment initiated Q3 2016
- Anticipate making go/no go decision to progress to Stage 2 in Q1 2017

ENCORE 602

Collaboration with another industry innovator

Tecentriq™ +/- Entinostat

Genentech
A Member of the Roche Group



Trial Centers

Primary: UCLA Health

CRO: Translational Research in Oncology Group **(TRIO)**

Primary Endpoints

- Phase 1b – Establish Phase 2 dose
- Phase 2 – PFS using RECIST 1.1

Secondary Endpoints

- ORR
- OS
- Safety & tolerability

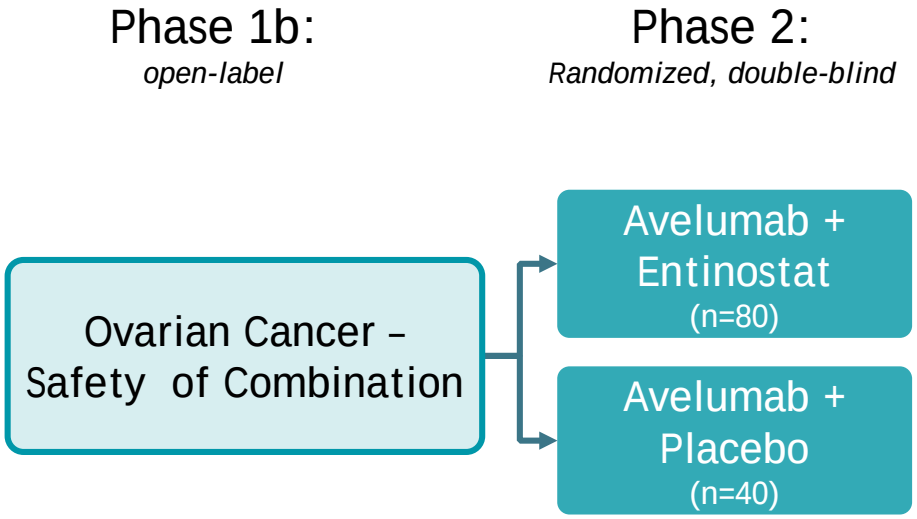
Trial Milestones:

- Initiated Phase 1b dose determination stage in June 2016
- Phase 1b data presentation anticipated 1H 2017

ENCORE 603

Seeks to demonstrate the breadth of entinostat efficacy

Avelumab +/- Entinostat



Primary Endpoints

- Phase 1b – Establish safety of the combination
- Phase 2 – PFS using RECIST 1.1

Secondary Endpoints

- ORR
- OS
- Safety & tolerability

Trial Milestones:

- First patient anticipated to be dosed Q4 2016

ENCORE Clinical Trial Programs

- The ENCORE trials are designed to assess entinostat's ability to enhance checkpoint efficacy
- Entinostat-checkpoint inhibitor combination trials are expected to generate multiple milestones over the next 12 months

Entinostat-checkpoint combinations			Anticipated data presentation	
Trial	Partner	Indication	2H16	1H17
ENCORE 601	MERCK	NSCLC – PD(L)-1 naïve	Phase 1b RP2D	Phase 2; 1st Stage
		NSCLC – PD(L)-1 refractory		Phase 2; 1st Stage
		Melanoma		Phase 2; 1st Stage
ENCORE 602	Genentech A Member of the Roche Group	TNBC		Phase 1b safety, RP2D
ENCORE 603	MERCK Pfizer	Ovarian		Phase 1b safety

RP2D = Recommended Phase 2 Dose

Company Strategy

Entinostat Breast Cancer

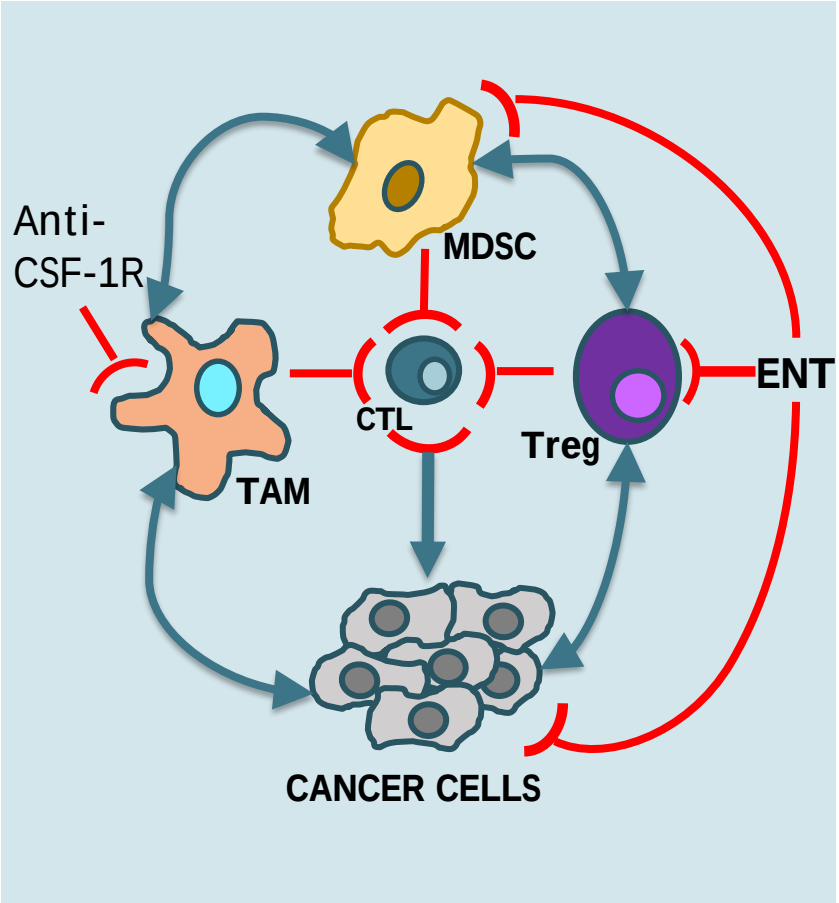
Entinostat Immuno-oncology

New molecules

Financing & Staffing

CSF-1R regulates proliferation, survival, differentiation, and chemotaxis of mononuclear phagocytes

- CSF-1R is expressed on mononuclear phagocytic cells, including immunosuppressive TAMs
- Anti-CSF-1R Ab depletes TAMs and increases tumor infiltrating lymphocytes
  - Inhibition shows clinical activity in diffuse-type giant cell tumor
  - Preclinical synergistic anti-tumor activity seen with immune checkpoint inhibitors

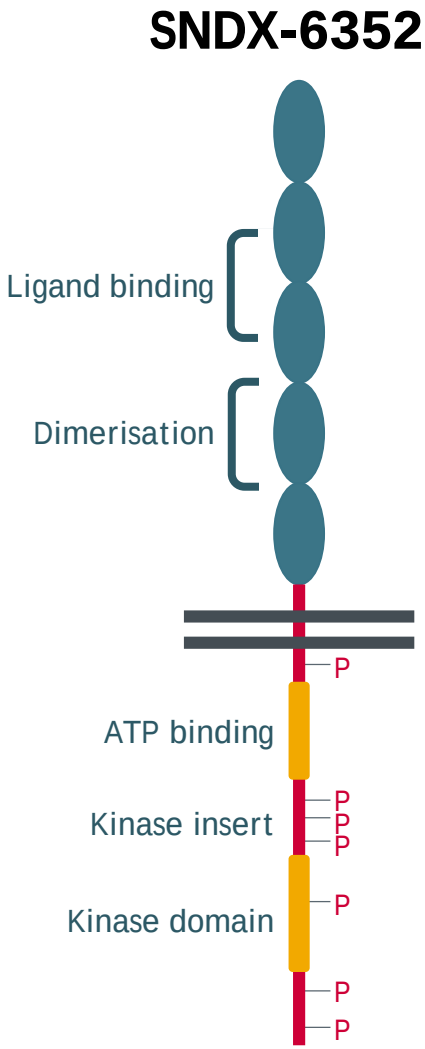


MDSC – myeloid derived suppressor cell; TAM – tumor associated macrophage; Treg – regulatory T lymphocyte; CTL – cytotoxic T cell; ENT – entinostat; CSF-1R – colony stimulating factor -1 receptor

Source: data on file

Syndax anti-CSF-1R antibody properties

- SNDX-6352, developed at UCB as UCB6352
- High affinity, humanized IgG4P (K_D = 4-8 pM)
- Demonstrated binding to ligand binding domain; blocks CSF-1 and IL-34 binding
- Inhibits ligand induced monocyte activation
- No evidence of antibody mediated receptor internalization or activation
- IND-enabling studies completed by UCB



Source: data on file

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Anticipated Syndax data announcements

Timing	Study	Indication	Phase	Milestone	Sponsor/Study #
2H16	Entinostat + KEYTRUDA®	NSCLC	1b	RP2D	Syndax/ENCORE 601
1H17	Entinostat + Tecentriq™	TNBC	1b	Safety	Syndax/ENCORE 602
	Entinostat + KEYTRUDA®	NSCLC, MEL	2	Go/No Go 1st Stage	Syndax/ENCORE 601
	Entinostat + avelumab	Ovarian	1b	Safety	Syndax/ENCORE 603
	SNDX-6352	Solid Tumors	1	SAD	Syndax/TBD
2H17	Entinostat + *exemestane*	HR+ BC	3	PFS data	NCI/E2112 (Syndax)
	Entinostat + avelumab	Ovarian	1b	RP2D	Syndax/ENCORE 603
	SNDX-6352	Solid Tumors	1	MAD	Syndax/TBD

Cash expected to fund key milestones into mid-2018

Milestones Anticipated

- Achieve PFS endpoint in entinostat Phase 3 clinical trial in advanced HR+ Breast Cancer
  - File NDA for entinostat in HR+ Breast Cancer
- Complete Phase 1b/2 IO-entinostat combination trials with:
  - KEYTRUDA® (pembrolizumab)
  - Tecentriq™ (atezolizumab)
  - Avelumab (phase 1b)
- File IND for SNDX-6352
- Complete SNDX-6352 Phase 1 program

As of 6/30/16: Cash balance $125.5M[1]; Shares Outstanding 17.8 M[2]

[1] Includes cash, cash equivalents and short-term investments, [2] Common stock and common stock equivalents 20.9 M

Thank you. Questions?

Syndax