2016 - A Clear Path Forward

Advanced Epigenetics Technology Creating Therapeutics for Oncology, Autoimmune & Animal Health Diseases

Todays Agenda for Zenith Epigenetics

- **1. Corporate profile and structure review**
  Slides 3-5
- **2. Epigenetic mechanism & indication potential**
  Slides 7-13
- **3. Zen-3694 and Prostate Cancer**
  Slides 15-17
- **4. Historic and development timelines**
  Slides 19-21
- **5. Expanded opportunities**
  Slides 23-25
- **6. Market cap valuation & milestones**
  Slides 27-29

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Share structure profile

Founded	**Corporate spin out from Resverlogix in June 2013**
Status	**Private – Considering a US market IPO**
Cash Raised 2014/15	**Approx. $19,500,000 @ $1.00 USD per share**
Enterprise Value est.	**$110 MM**
Shares Outstanding	**99,042,045 shares outstanding** **Approximately 111,000,000 fully diluted**
Cash Burn	**$1.6MM per quarter - Current**

History, Timeline & Strategic Progression

Development breakthoughs

Zenith's biology advancements surpass competition. **2013-2014**

1st FDA approved IND for human clinical

Without extensive cardio monitoring reviews faced by competitors. **July 2014**

 # 1 Oncology unit in the USA accepts lead investigator position

Memorial Sloan Kettering. **Sept 2014**

Challenges

Prior to the Phase 1 launch an intellectual Property issue arose. **October 2014**

Change of plans

Intellectual Property (IP) published allowing the advancement of our superior 2nd generation drug. **Jan 2015**

Strategy

Two replacement compounds have been selected ZEN-3694 & ZEN-3717. **April 2015**

Partnership Zenith locks in potential $200MM plus flowthrough royalties from the RVX/Hepalink deal July 2015.

Future course

Internal development, regional licensing and co-development deals will fuel value creation. **2015 - 2016**

Epigenetics Mechanism and Pre-Clinical Results

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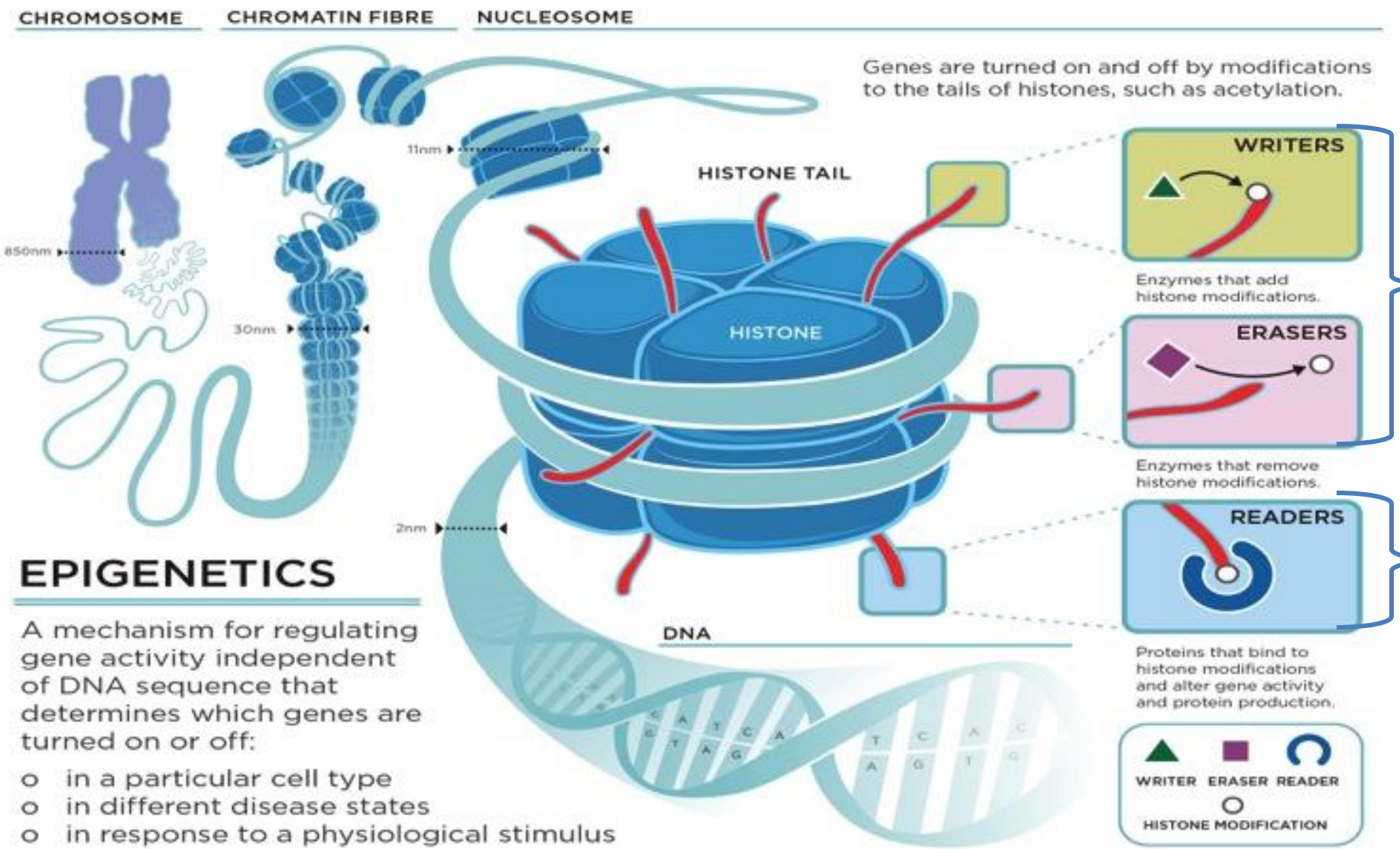
3. Epigenetics, the mechanism behind our approach



Early Epigenetic Approach

Advanced Epigenetic Approach

Zenith's 3rd generation BETi - unique clinical strategy, larger markets, novel combinations, & regional deals

ZENITH EPIGENETICS

1

1st Gen BETi Clinical Targets

First level clinical programs are hampered by extensive CV safety monitoring and/or suboptimal drug properties

2

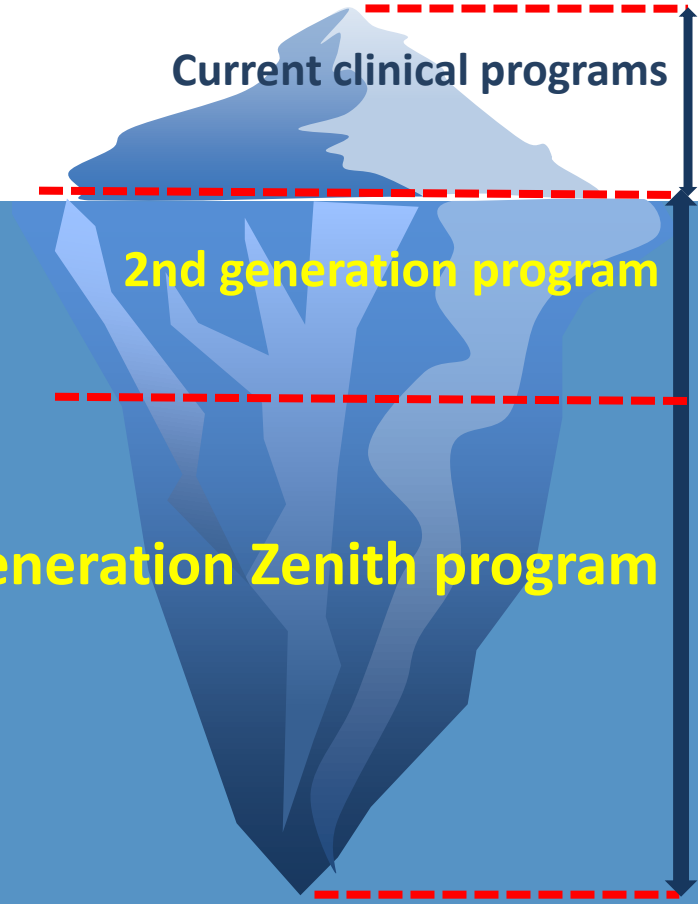
2nd Gen Cleaner Safety Profiles

Both non-benzodiazapine approach has already proven acceptance by FDA regulators

3

Expanded Opportunities

Zenith's advanced has enabled expansion to Solid Tumors, Autoimmune , 3rd gen Heme malignancies and animal health



Mainly Heme malignancies

Merck (Oncoethix), Constellation, GSK, Tensha

2nd generation - All comers, Heme and solid (Bayer, Gilead, BMS, Incyte, Abbvie)

Zenith's BRD4 target, is directly involved in the resistance mechanisms of several types of anti-cancer therapies

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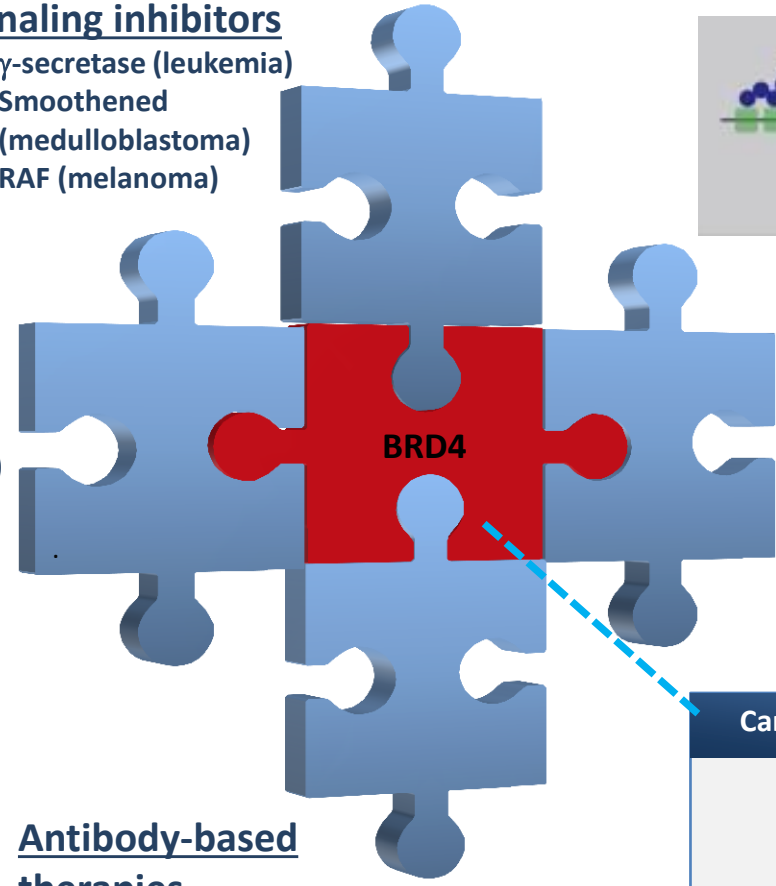
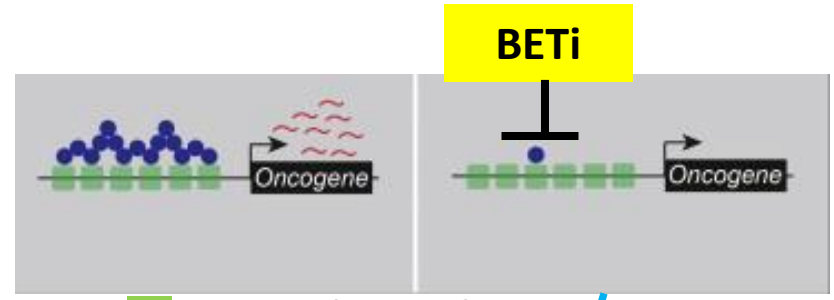
Signaling inhibitors
- γ-secretase (leukemia)
- Smoothened (medulloblastoma)
- RAF (melanoma)

Hormone-deprivation therapies
- Androgen (prostate cancer)
- Estrogen (breast cancer)



Antibody-based therapies
- Rituximab (lymphoma)



Super-enhancer cluster

BRD4

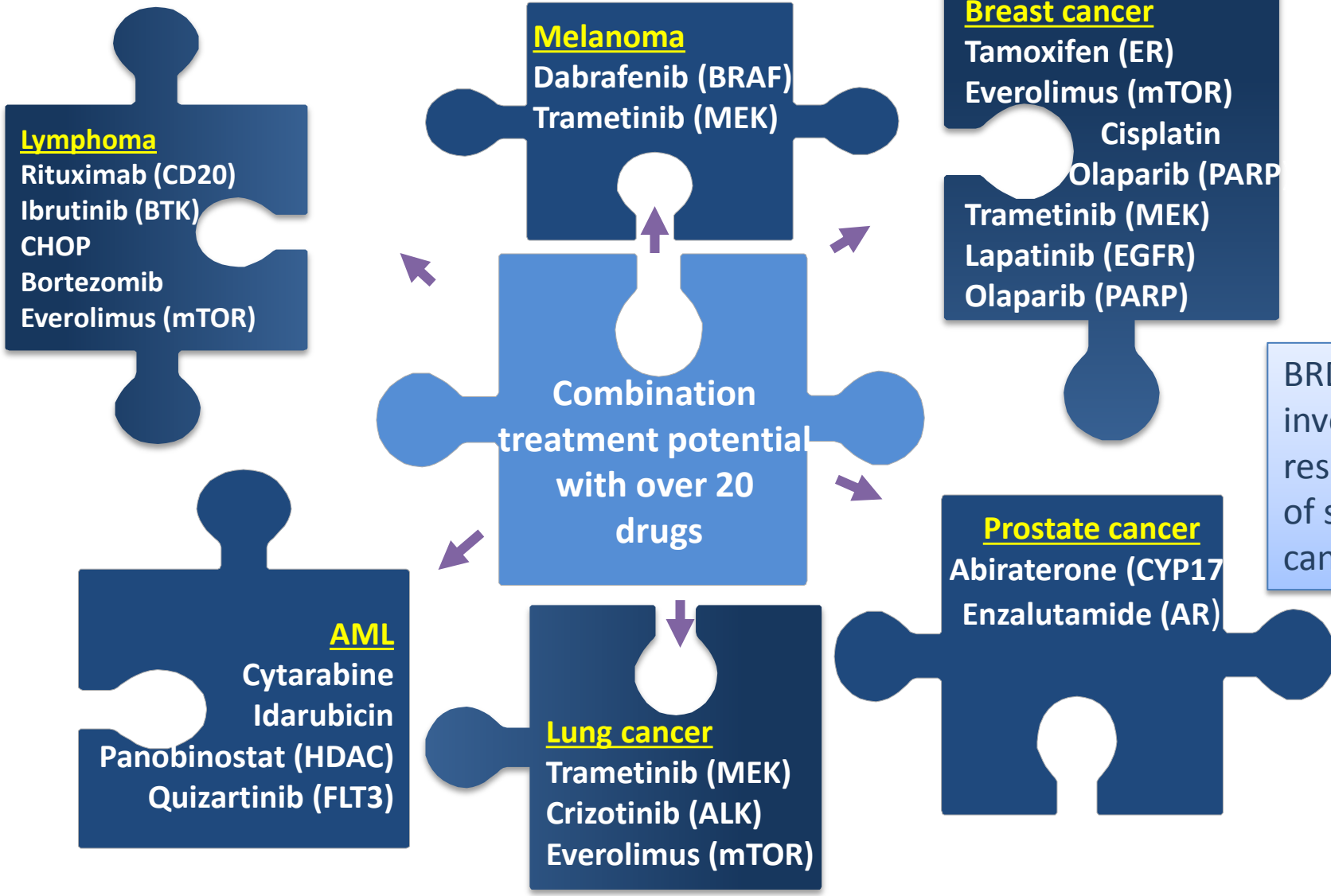
Chemotherapies
- Tamoxifen (breast cancer)
- Everolimus (breast cancer)

Cancers Escape Mechanism

Resistance mechanism involving BRD4 (treatment with BETi resensitizes cancers to these therapies)

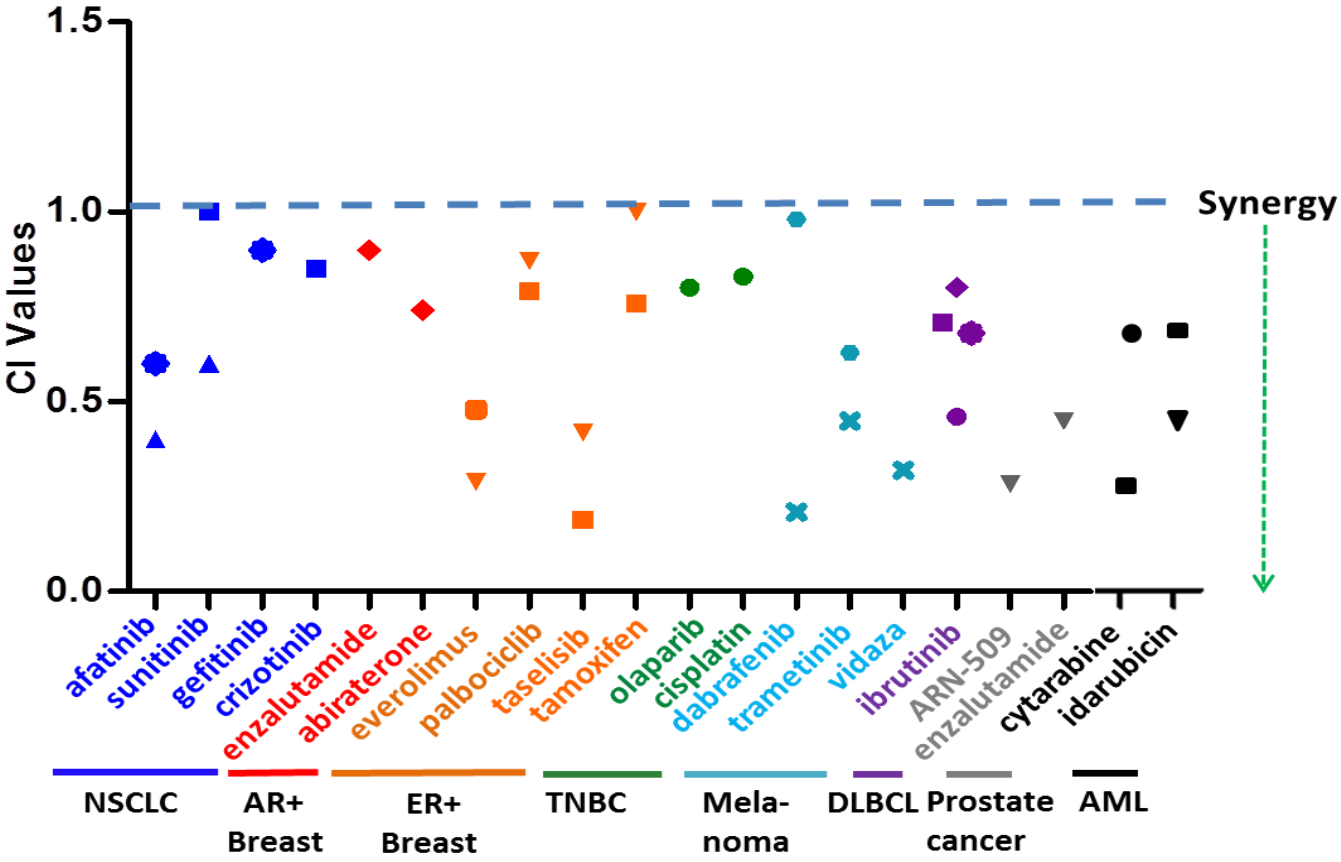
Resistance to several standard of care treatments does not impede sensitivity to BETi

BET inhibitors have the potential to be important combination agents with existing therapies



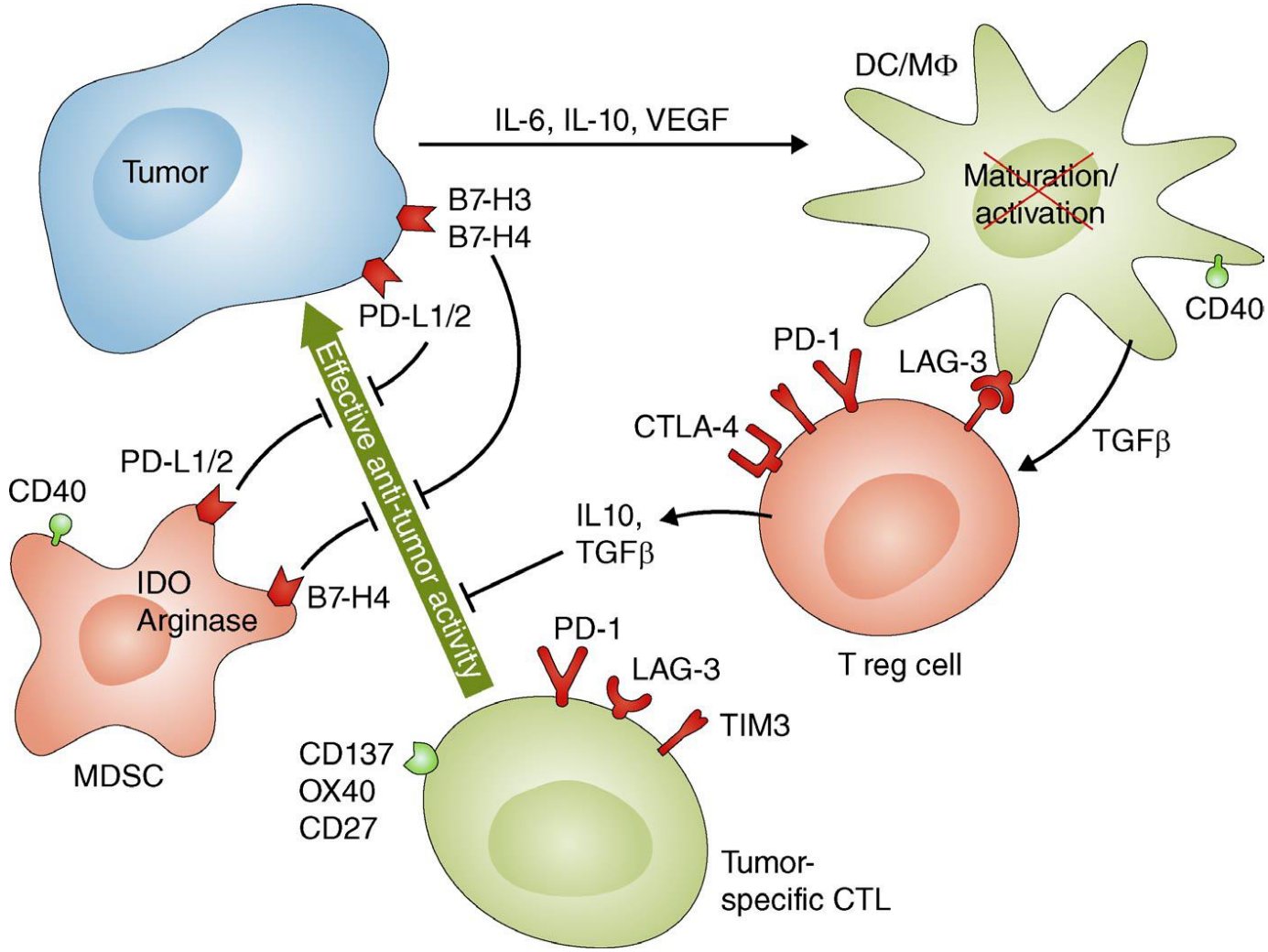
BRD4 target, is directly involved in the resistance mechanisms of several types of anti-cancer therapies

ZEN-3694 synergizes with several standard of care and targeted therapy drugs in different cancers

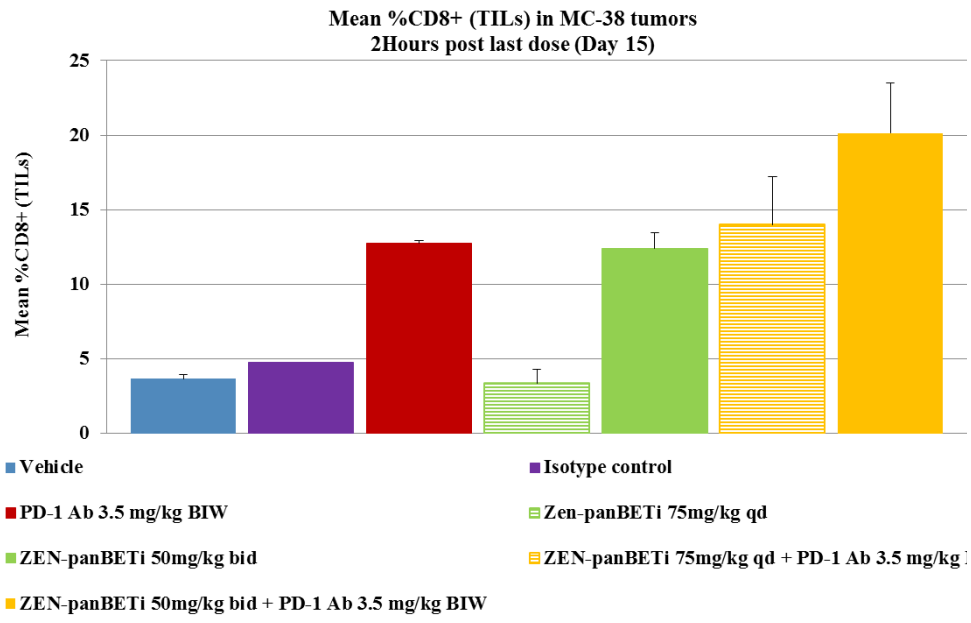


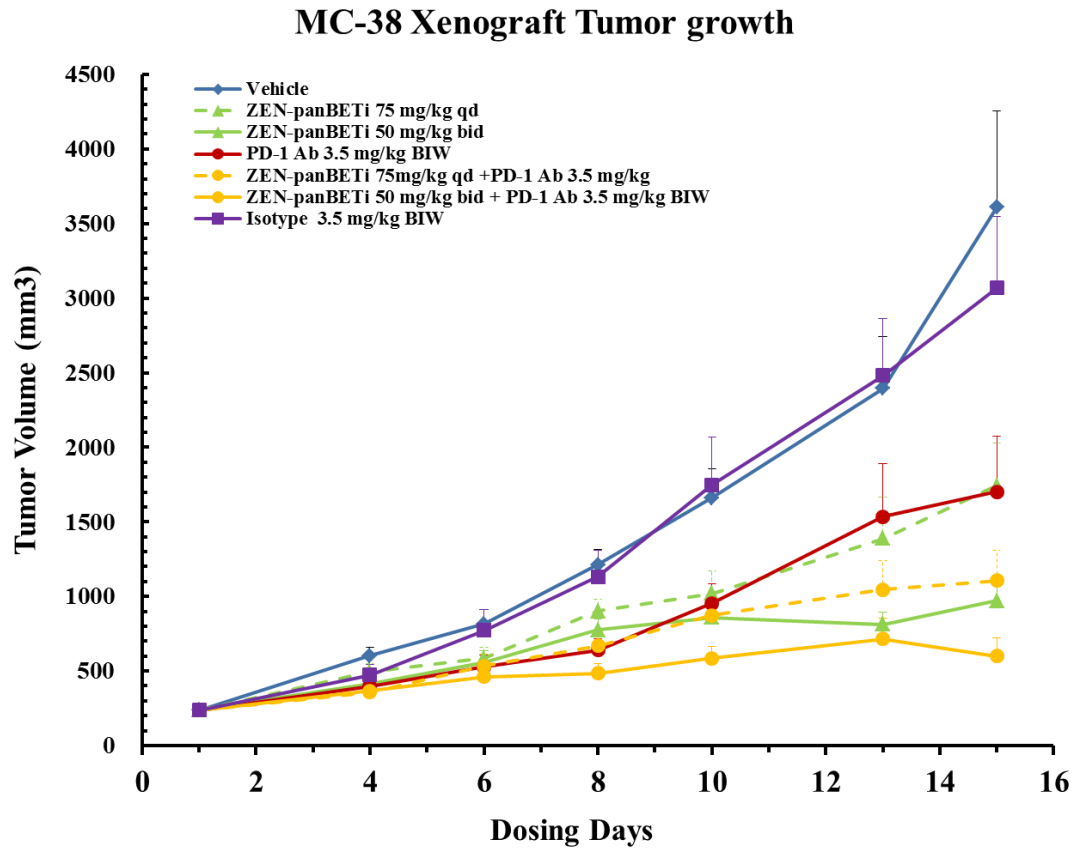
Indication		Cell line (mutation)
NSCLC	▲	H1975 (EGFR L858R T790M)
	⬢	H820 (EGFR T790M)
	■	H2228 (ALK)
AR+ Breast	◆	MDA-MB-453
ER+ Breast	■	MCF-7 (ER+)
	▼	ZR-75-1 (ER+)
TNBC	●	HCC1937 (BRCA1)
Melanoma	✖	C32 (BRAF V600E)
	⬢	A375 (BRAF)
DLBCL	⬢	CARNAVAL (MYC/BCL2)
	●	OCI-LY18 (MYC/BCL2)
	◆	NU-DUL-1
	■	OCI-LY3 (A20)
Prostate	▼	VCAP (AR AMP/AR-V7)
AML	■	MV4-11 (MLL-AF4/FLT3-ITD)
	●	OCI-AML2 (DNMT3A/MLL)
	▼	OCI-AML3 (DNMT3A/NPM1)

ZEN-3694 Promotes Anti-tumor immune responses
BETi modulate multiple immuno-oncology targets



PanBETi inhibits PD-L1 expression in cancer cells in vitro and works well in combination with anti-PD-1 Mab





Effecting the Cancer Resistance Mechanism

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General info regarding the unmet need in metastatic Prostate Cancer (mCRPC)

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Current Market and Unmet Need

- ~135,000 annual mCRPC patients in the US/EU alone –Majority receive enzalutamide or abiraterone as first line treatment
- **Over $3 billion in sales in 2014** for first line enzalutamide and abiraterone
- Patients are becoming resistant to these therapies, no effective second line therapy yet
- Continuing high mortality rate in resistant mCRPC (50% 1 year survival)

Opportunity for ZEN-3694

- 2nd line single agent treatment , KOLs agree that there is no effective 2nd line treatment
  - ~60,000 2nd line treatment eligible patients in US/EU alone
- Expand into 1st line treatment in combination with enzalutamide or abiraterone

ZEN-3694 has proven significant potential to work in patients developing mCRPC resistance to enzalutamide

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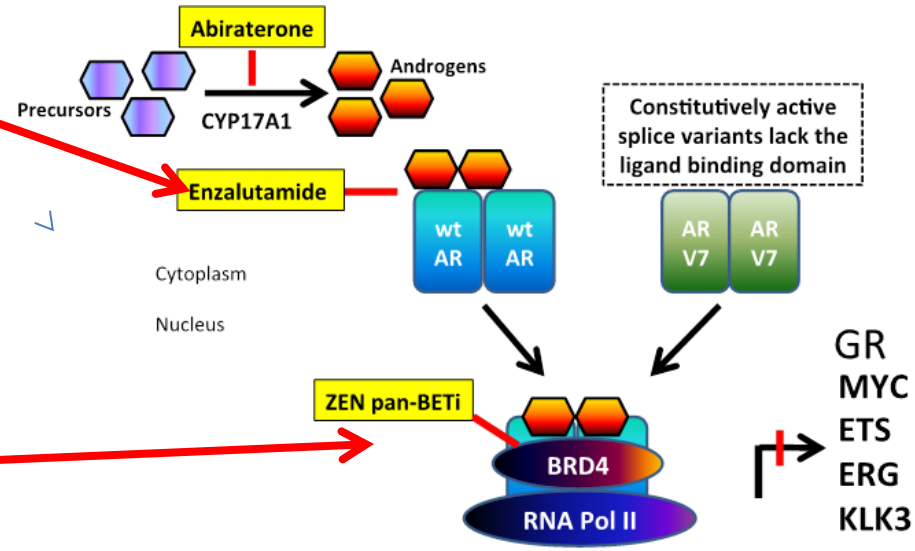
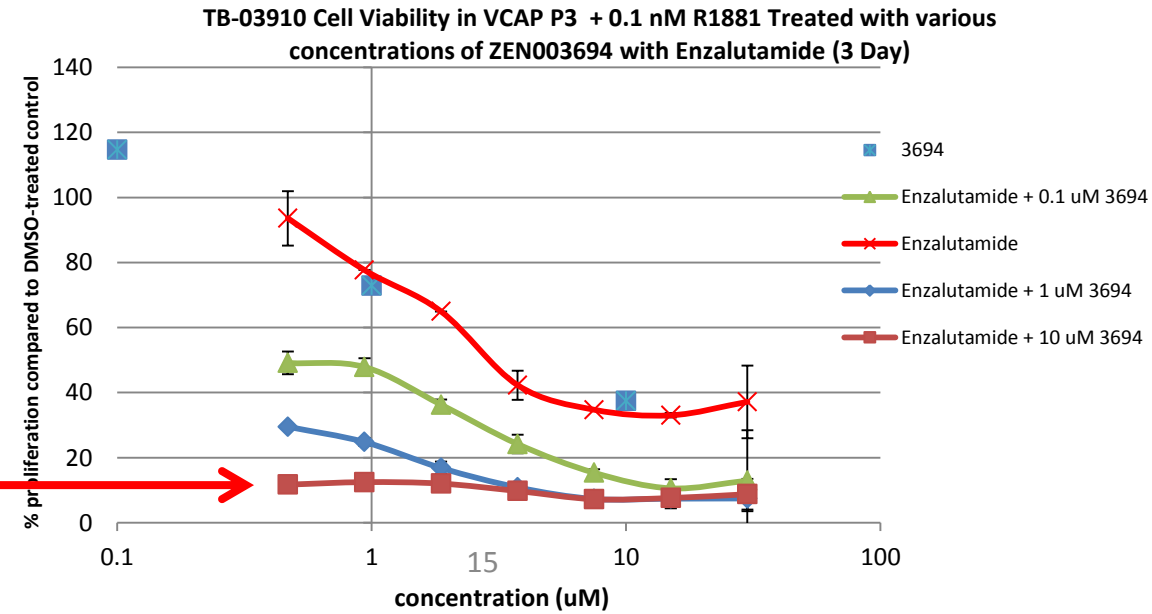
ZEN-3694 works down stream of current therapies

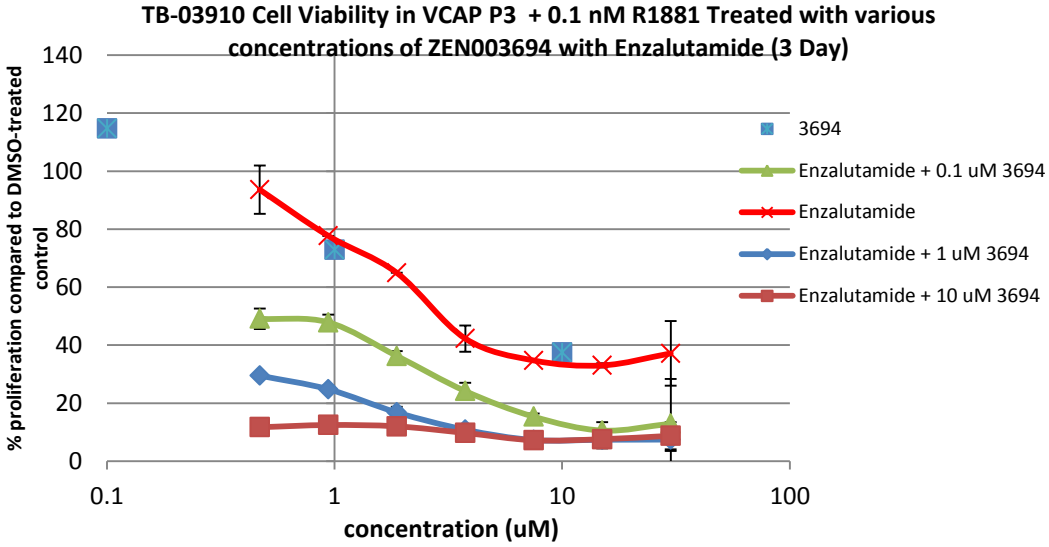
ZEN-3694 works where resistance to existing lead drugs, like Enzalutamide, has evolved

The combination of ZEN-3694 & todays top medications show strong synergizes and expected reduction to resistance

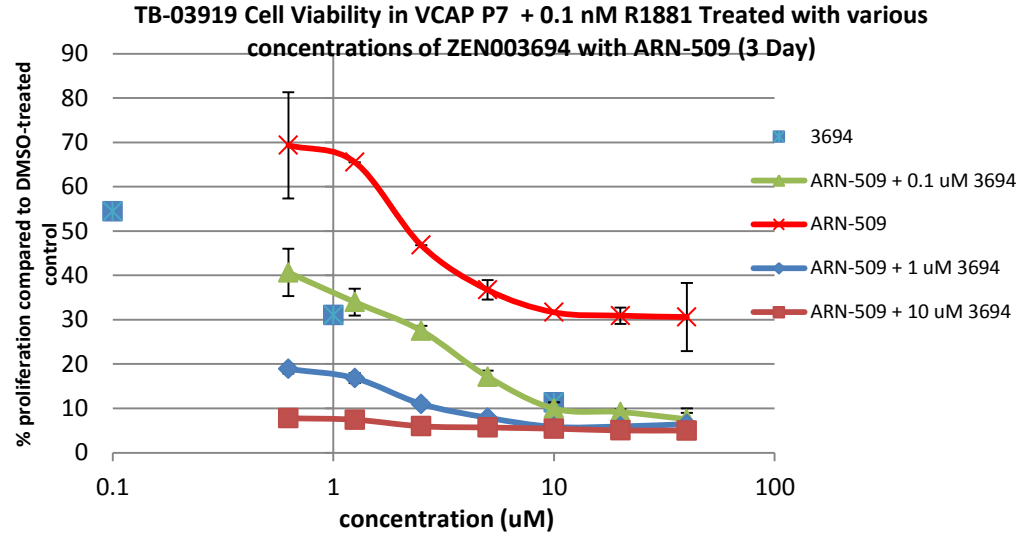




ZEN-3694 synergizes with enzalutamide and ARN-509. a leading prostate cancer drug



uM ZEN3694	IC50 uM of Enzalutamide in VCAP + 0.1 nM R1881
0	4.98
0.1	0.58
1	0.09
10	<0.09



uM ZEN3694	IC50 uM of ARN-509 in VCAP + 0.1 nM R1881
0	2.24
0.1	0.36
1	0.02
10	<0.02

VCAP curve shift: Enzalutamide and ARN-509 sensitive, ZEN003694 highly synergistic.

Combination Therapy Potential and Design

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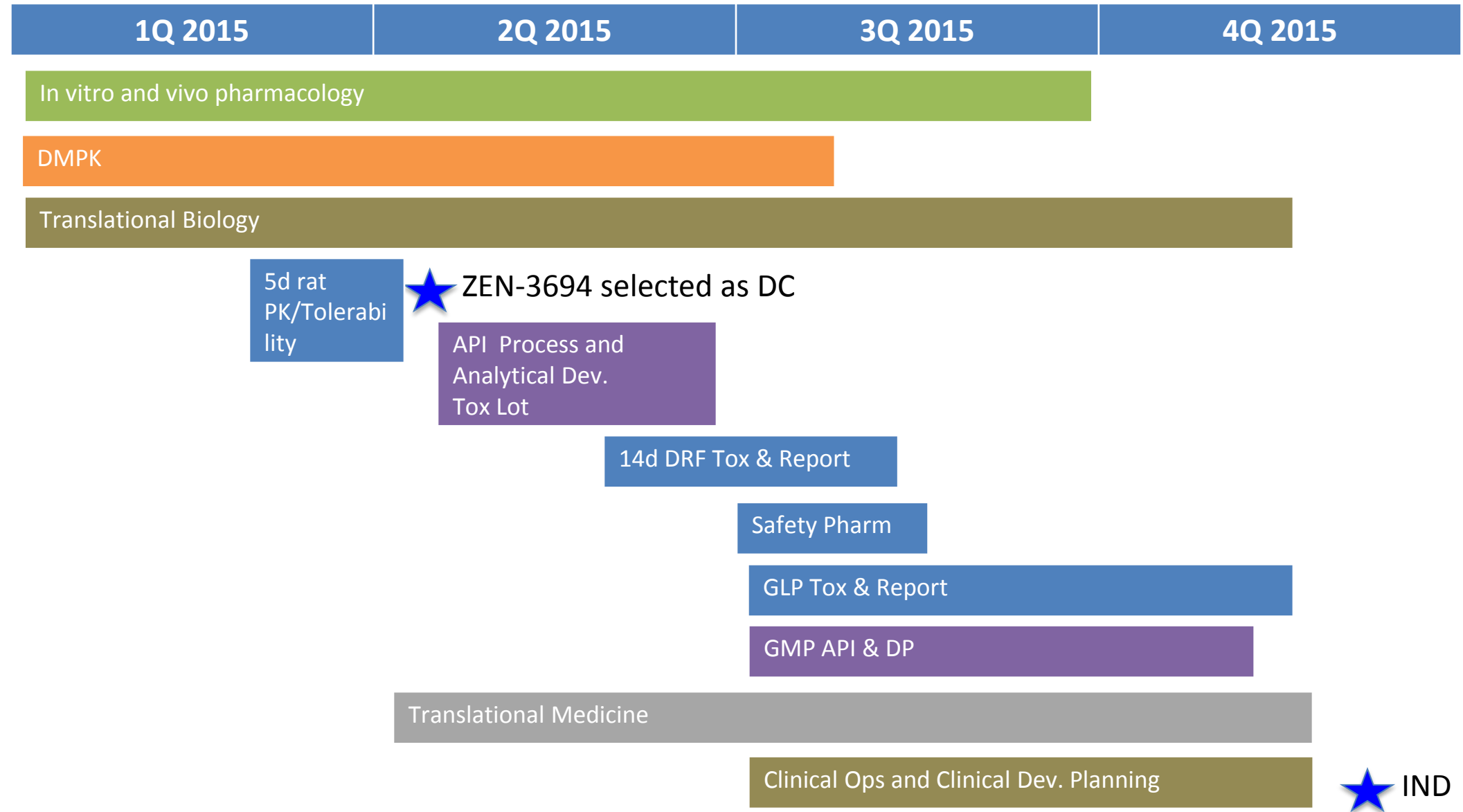
ZEN-3694 IND timeline: IND targeted for 11/2015



Zenith's List of Publications – Growing Awareness

PUBLICATIONS

1. Bhadury, J., Nilsson, L.M., Muralidharan, S.V., Green, L.C., Li, Z., Gesner, E.M., Hansen, H.C., Keller, U.B., McLure, K.G., and Nilsson, J.A. (2014). BET and HDAC inhibitors induce similar genes and biological effects and synergize to kill in Myc-induced murine lymphoma. Proc Natl Acad Sci U S A *111*, E2721-2730.

1. Duffy, B.C., Liu, S., Martin, G.S., Wang, R., Hsia, M.M., Zhao, H., Guo, C., Ellis, M., Quinn, J.F., Kharenko, O.A*., et al.* (2015). Discovery of a new chemical series of BRD4(1) inhibitors using protein-ligand docking and structure-guided design. Bioorg Med Chem Lett *25*, 2818-2823.

ORAL PRESENTATIONS

1. Campeau, E. Pre-clinical characterization of ZEN-3694, a novel BET bromodomain inhibitor. *Presentation to be given at Discovery on target: targeting epigenetic readers and chromatin remodelers, September 21-23, 2015.*

1. Campeau, E. Discovery and preclinical characterization of novel BET bromodomain inhibitors. *Presentation at EpiCongress 2015, July 21-23, 2015.*
   McLure, K.G. Developing Best in Class BET Inhibitors for Oncology & AI: from Discovery to the Clinic. *Presentation at EpiCongress 2014, July 23-24, 2014.*

POSTERS

1. Attwell, S., Campeau, E., Jahagirdar, R., Kharenko, O.A., Norek, K., Tsujikawa, L., Calosing, C., Patel, R.G., Gesner, E.M., Lakhotia, S., Hansen, H.C. (2015). The clinical candidate ZEN-3694, a novel BET bromodomain inhibitor, is efficacious in the treatment of a variety of solid tumor and hematological malignancies, alone or in combination with several standard of care and targeted therapies. *Poster submitted for presentation at the AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics, November 5-9, 2015*

2. Jahagirdar, R., Kharenko, O.A., Campeau, E., Gilham, D., Wu, J., Tsujikawa, L., Calosing, C., Sharma, N., Tobin, J., Hansen, H.C., Yakes, F.M. (2014). ZEN-3365 is a novel BET bromodomain inhibitor for the treatment of hematologic malignancies and solid tumors. *Poster presented at the 26th EORTC-NCI-AACR Symposium on Molecular Targets and Cancer Therapeutics, November 18-21, 2014*

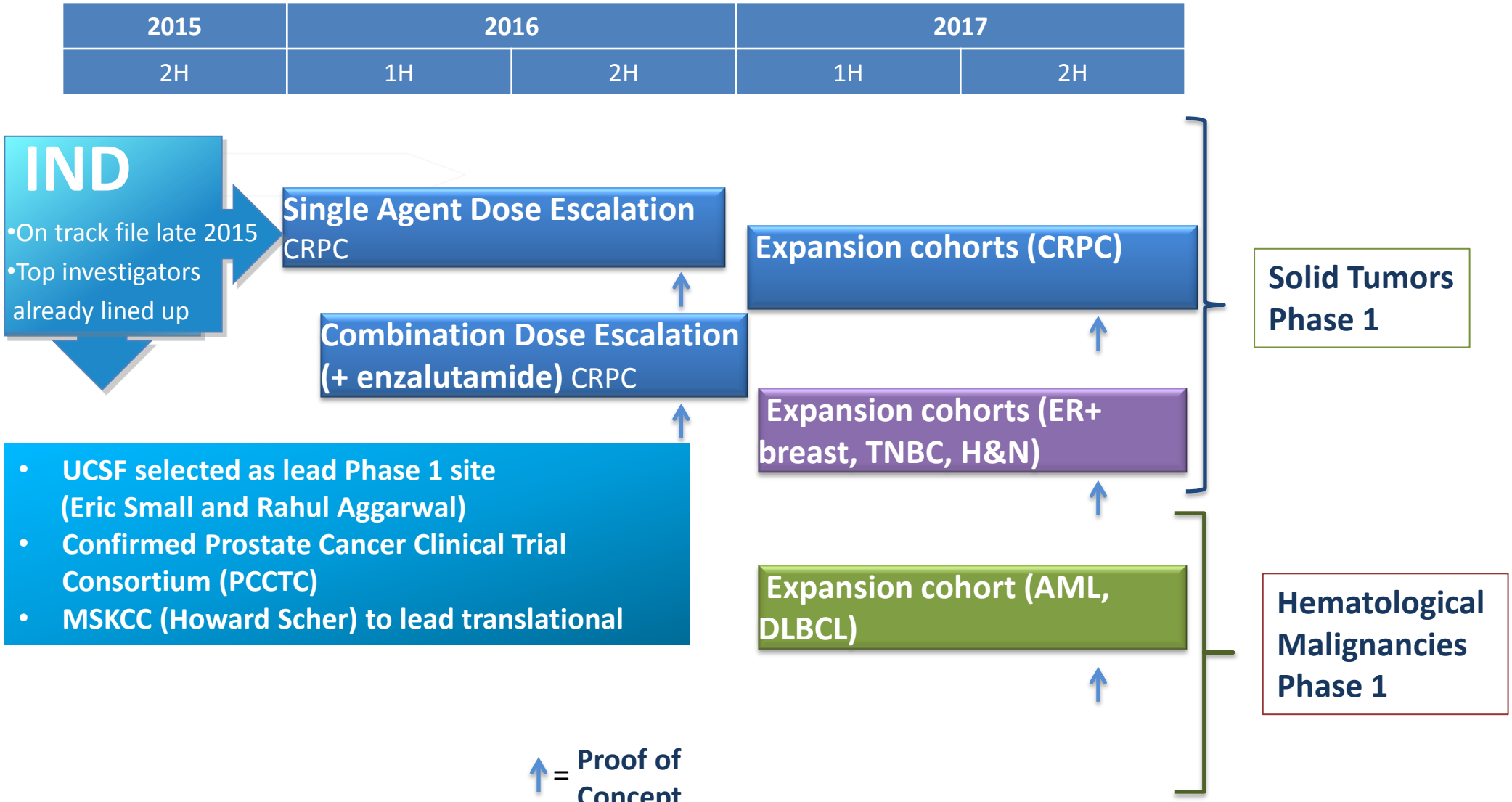
3. Bhadury, J., Nilsson, L.M., Green, L., Zhoulei, L., Gesner, E.M. Muralidharan, S.V., Hansen, H.C., Keller, U.B., McLure, K.G., Nilsson, J.A. (2014). BET bromodomain inhibitors abrogate cell cycle progression and induces apoptosis in Myc-induced mouse lymphoma cells without affecting MYC transcription. *Poster presented at the American Association for Cancer Research in April 2014.*

4. Muralidharan, S.V., Bhadury, J., Green, L., Nilsson, L.M., McLure, K.G., Nilsson, J.A. (2014). BET bromodomain inhibitors affect replication & cell cycle progression. *Poster presented at the American Association for Cancer Research in April 2014.*

5. Campeau, E., Wu, J., Gesner, E.M., Kharenko, O.A., Attwell, S., Gilham, D., Wasiak, S., Wagner, G.S., McLure, K.G., Young, P.R. (2013a). RVX-2135 is a novel BET inhibitor that decreases *MYC* and *BCL-2* expression and synergizes with cytarabine to induce apoptosis in acute myeloid leukemia cells. *Poster presented at the Keystone Symposia on Epigenetic Marks and Cancer Drugs in March 2013.*

6. Campeau, E., Jahagirdar, R., Wu, J., Gesner, E.M., Kharenko, O.A., Yu, R., Attwell, S., Hansen, H.C., Wagner, G.S., McLure, K.G., Young, P.R. (2013b). RVX-2135 is a novel, orally bioavailable epigenetic BET inhibitor that synergizes with cytarabine and idarubicin to inhibit proliferation of acute myeloid leukemia cells. *Poster presented at the American Association for Cancer Research in April 2013.*

Early clinical development plan for ZEN-3694



Competitive Landscape

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Early revenue opportunities include regional licensing deals, orphan indications and animal health

Parallel development programs to expand and speed up revenue streams

Expedited Orphan Clinical Trials

BRD4 research has indicated numerous orphan drug opportunities

Pathway 2-3 years

Animal Health

BRD4 research has indicated numerous opportunities for both companion and food animals

Pathway 1-2 years

Co-development and Licensing Opportunities

Working with regional or global pharma's in countries with regional issues such as China's expanding cancer rates.

Pathway 1-4 years

Leading Companies - Big Pharma Divisions

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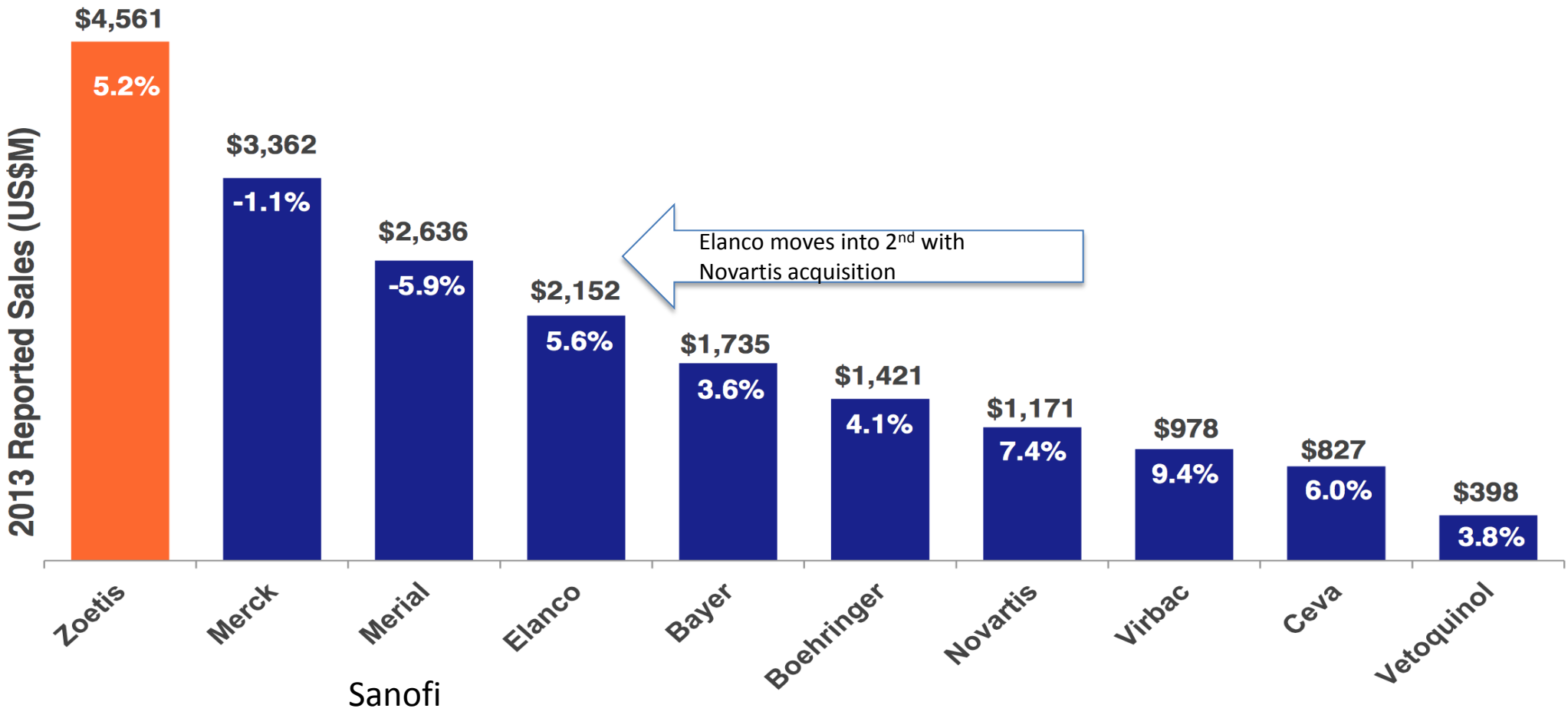
Continued Growth Through Mergers and Acquisitions



Private Placement & Corporate Details

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Market Cap Valuation Rationale

1. **Oncoethix was acquired by Merck in January 2015 - $375MM**
   - Oncoethix only has a single BETi drug, OTX-015
   - Limited efficacy in Phase 1 Trials
   - It is a Benzodiazepine program which have been hampered by extensive cardiovascular safety in clinical monitoring
   - $110MM payment upfront

2. **Epizyme's 2012 pre-clinical licensing deal nets $90MM**
   - Epizyme's 2013 IPO market cap was approximately $400MM
   - Current market cap is $677MM
   - Two Phase 1 programs in hematology indications
   - Both programs are based on older "writer" Epigenetics
   - Clinical trial results have disappointed

3. **Constellation received $95MM upfront in a 2012 deal**
   - The Genentech development deal involved non-Bromodomain epigenetics with a option to buy the Bromodomain program
   - A phase 1 program with no published data
   - A Benzodiazepine program hampered by extensive cardiovascular safety in clinical monitoring

4. **Market Validation showed a $90MM value in 2013**
   - On June 3rd, 2013 upon the spin out of Zenith Epigenetics from Resverlogix Corp the RVX stock adjusted by $90MM

Zenith Epigenetics – $100MM

- **Zenith has priced its current financing very competively compared to existing markets for less effective technologies**
- **Based on recent deal history and advanced biology Zenith management expect a rapid value increase for investors**

Zenith Milestone Targets

1 Development targets

- ✔ Publish new Intelectual Property
- ✔ Select a new lead molecule ZEN-3694
- ✔ Select a new backup molecule – ZEN-3717
- ✔ File a 2nd IND with the FDA

2 Clinical targets

- ✔ Top investigators recruted as leads for the program
- ☐ Initiate a clinical trial for solid tumors
- ☐ Reach proof of concept by 2H 2016
- ☐ Expand to include combination therapies

3 Corporate development

- ☐ IPO on the Nasdaq
- ☐ Regional licensing in China and other countries
- ☐ Co-development partnering
- ☐ New BET Bromodomain opportunities

ZENITH EPIGENETICS