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): **June 19, 2012**

ZIOPHARM Oncology, Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware	**001-33038**	**84-1475672**
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(IRS Employer Identification No.)

1180 Avenue of the Americas **20th Floor** **New York, NY**	**10036**
(Address of Principal Executive Offices)	(Zip Code)

(646) 214-0700
(Registrant's telephone number, including area code)

Not applicable
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

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

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

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

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

Item 8.01 **Other Events**

ZIOPHARM Oncology, Inc., or the Company, will present the attached discussion of the Company's palifosfamide development strategy and milestones, as well as the Company's IL-12 DNA therapeutics program, at the Company's Research and Development Day in New York, New York, being held on June 19, 2012.

A copy of the above referenced presentation is filed as Exhibit 99.1 to this Current Report on Form 8-K.

Item 9.01 **Financial Statements and Exhibits**

(d) Exhibits

Exhibit No.	Description
99.1	Presentation of the Company dated June 19, 2012

SIGNATURES

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.

ZIOPHARM Oncology, Inc.

By: /s/ Caesar Belbel
Name: Caesar Belbel
Title: Executive Vice President, Chief Legal Officer and Secretary

Date: June 19, 2012

INDEX OF EXHIBITS

Exhibit No.	Description
99.1	Presentation of the Company dated June 19, 2012

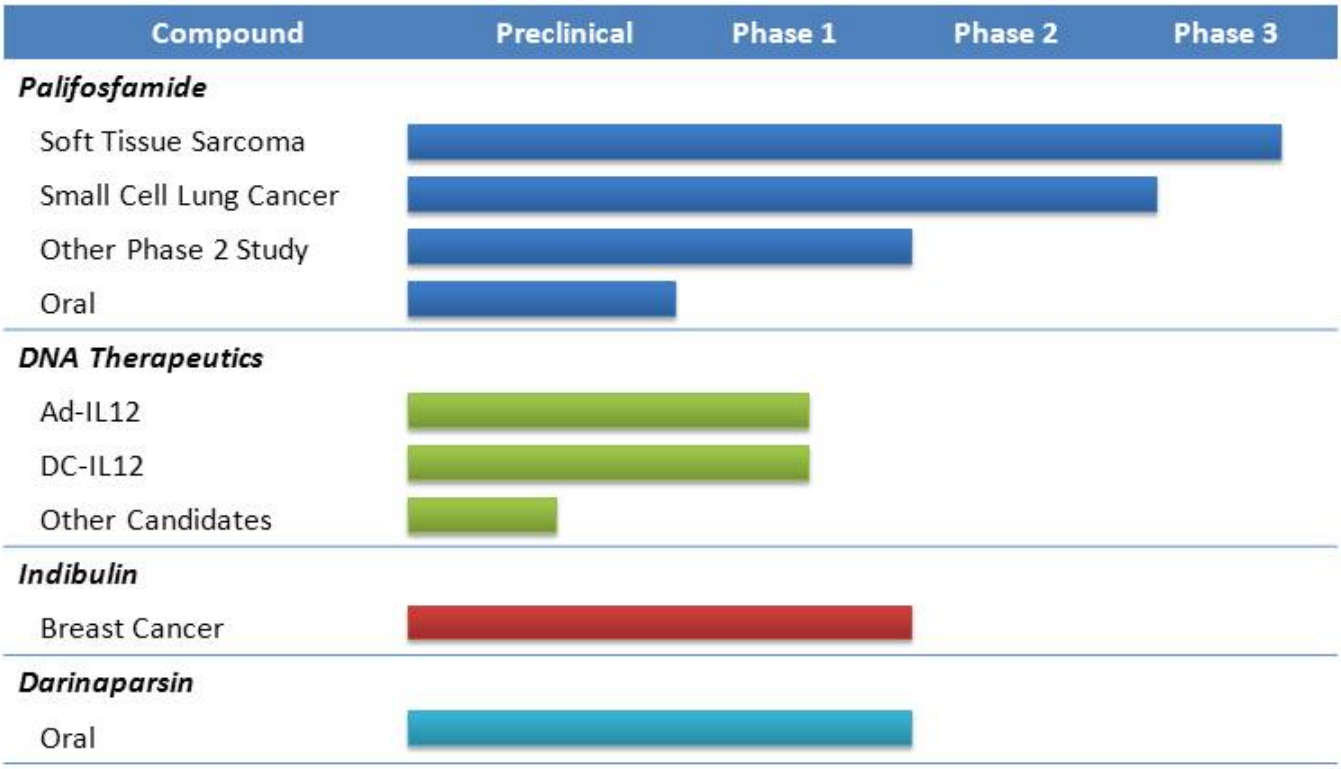
Exhibit 99.1


ZIOPHARM Oncology
2012 Research & Development Day
June 19, 2012
Jonathan Lewis, MD, PhD
Chief Executive Officer
www.ziopharm.com
June 19, 2012 | 1

Forward-Looking Statements

This presentation contains certain forward-looking information about ZIOPHARM Oncology that is intended to be covered by the safe harbor for "forward-looking statements" provided by the Private Securities Litigation Reform Act of 1995, as amended. Forward-looking statements are statements that are not historical facts. Words such as "expect(s)," "feel(s)," "believe(s)," "will," "may," "anticipate(s)" and similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to, statements regarding our ability to successfully develop and commercialize our therapeutic products; our ability to expand our long-term business opportunities; financial projections and estimates and their underlying assumptions; and future performance. All of such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include, but are not limited to: whether any of our therapeutic candidates will advance further in the clinical trials process and whether and when, if at all, they will receive final approval from the U.S. Food and Drug Administration or equivalent foreign regulatory agencies and for which indications; whether any of our therapeutic candidates will be successfully marketed if approved; whether our DNA-based biotherapeutics discovery and development efforts will be successful; our ability to achieve the results contemplated by our collaboration agreements; the strength and enforceability of our intellectual property rights; competition from pharmaceutical and biotechnology companies; the development of and our ability to take advantage of the market for DNA-based biotherapeutics; our ability to raise additional capital to fund our operations on terms acceptable to us; general economic conditions; and the other risk factors contained in our periodic and interim reports filed with the SEC including, but not limited to, our Annual Report on Form 10-K for the fiscal year ended December 31, 2011, and our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2012. Our audience is cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, and we do not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.

Data-Driven Oncology Portfolio



Many Thanks

Our Guests

- **Wael Harb, MD,** Chief Community Officer of the Hoosier Oncology Group, Director of Cancer Services and Clinical Research at Indiana University Health Arnett
- **Ramaswamy Govindan, MD,** Head of the Thoracic Oncology Program, Co-Director of Medical Oncology, and Professor of Medicine, Oncology Division at Washington University School of Medicine
- **Robert Maki, MD, PhD,** Chief of the Pediatric Hematology/Oncology Division, Medical Director of the Sarcoma Cancer Program, Tisch Cancer Institute at Mount Sinai Medical Center
- **Larry Norton, MD,** Deputy Physician-in-Chief for Breast Cancer Programs, Memorial Sloan-Kettering Cancer Center, Medical Director, Breast Cancer Programs

From ZIOPHARM

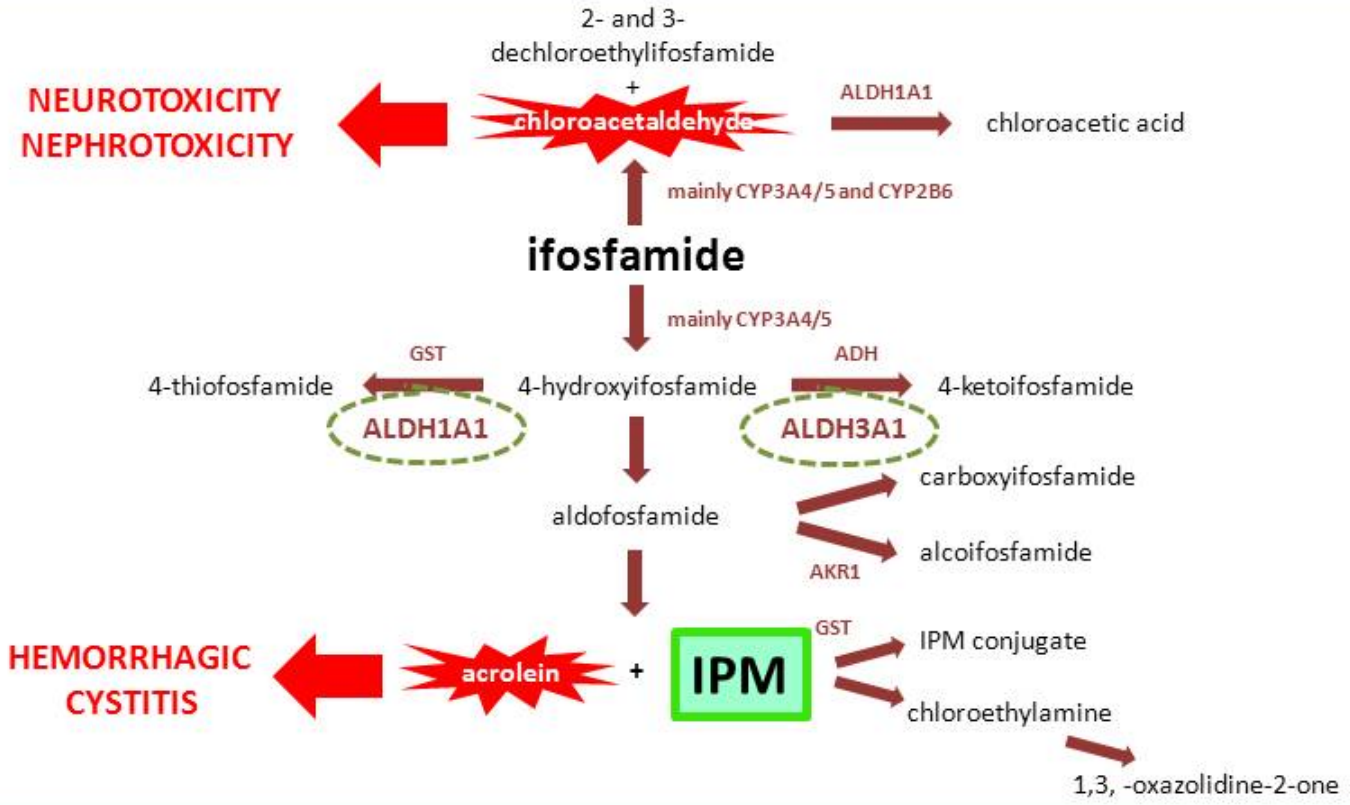
- **Hagop Youssoufian, MSc, MD,** President of Research and Development and Chief Medical Officer
- **Mark Thornton, MD, PhD,** Executive Vice President, Government Affairs, Health Policy and Advocacy and Chief Quality Compliance Officer

Program

Palifosfamide	
Small Cell Lung Cancer	– **Rational Design and Preclinical Activity** – **Phase 1 Bridging Study in SCLC** – **MATISSE: A Phase 3 Study**
Sarcoma	– **FDA, PFS & the Shifting Landscape in Sarcoma** – **The PICASSO 3 Study**
DNA Therapeutics	– **AD-IL12 and DNA Therapeutics**
Rational Drug Development	– **Cancer Biology in the 21st Century: Translation in the Clinic**

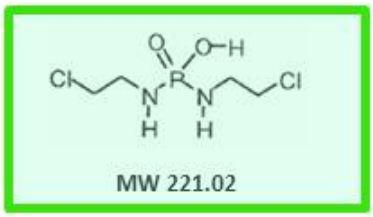
Palifosfamide

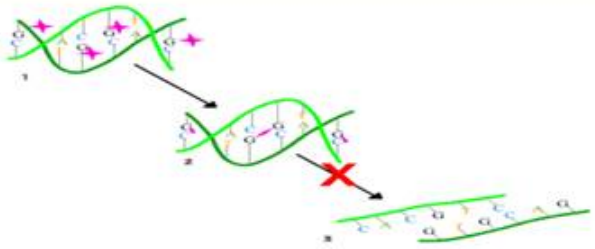
Biosynthesis & Metabolism

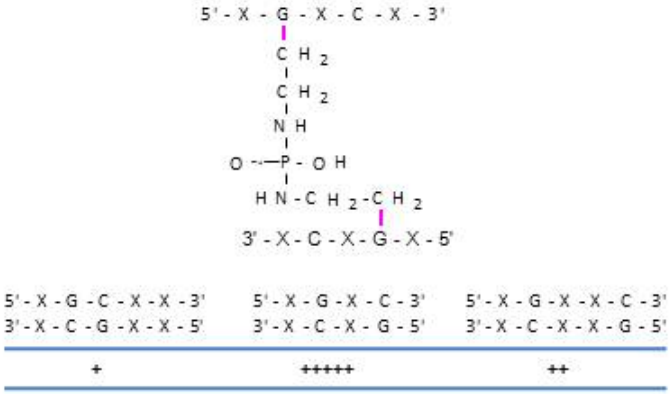


Palifosfamide

Safety ~ Bypass Drug Resistance ~ Target Stem Cells



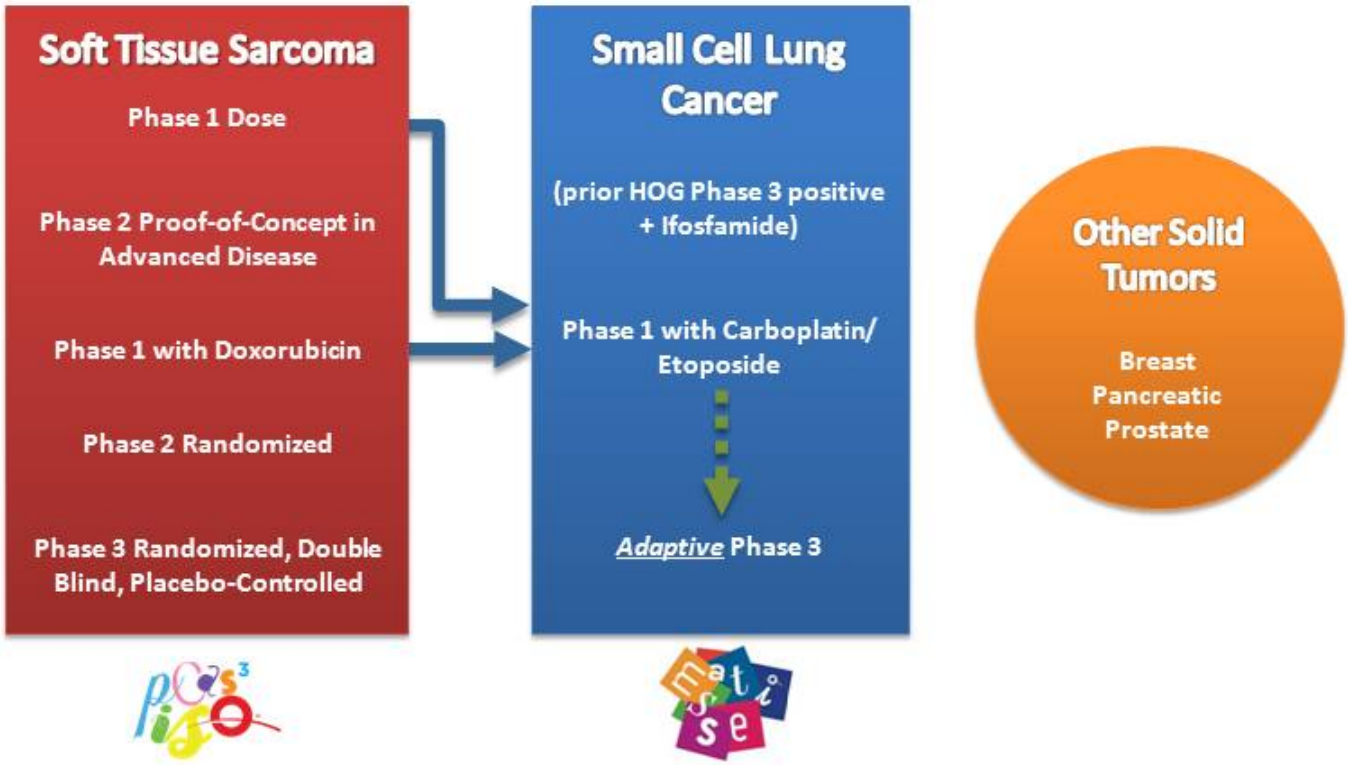




- **Crosslinks DNA:**
  - Preferentially targets 5'-G-X-C-3'
  - Generates 7-atom crosslinks
- **Impedes DNA replication**

Struck RF et al. Cancer Chemother Pharmacol (2000) 45: 59-62

Rational Drug Development: Extensive Early Clinical Study Informed Late-Stage Programs



Wael Harb, MD

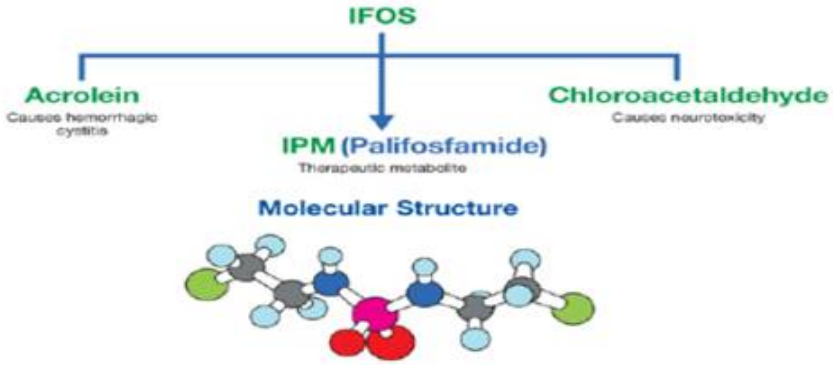
Small Cell Lung Cancer

Rational Design and Preclinical Activity

Phase 1 Bridging Study

A Novel DNA-Targeted Drug

Broad Application	Effect in solid tumors and hematological malignancies
Safety, Efficacy and Accessibility	Active in ALDH^{hi} cells, rapid on-off kinetics, less toxic and ease of administration
Addressing Unmet Needs	Orphan Drug status for STS in U.S. and Europe
Long Commercial and Development Runway	U.S. pharmaceutical composition patent rights extending to 2029; other pending applications WW



Preclinical Activity & Safety

Low Toxicity	No neurotoxicity or bladder toxicity
Minimal Patient-to Patient Variability	On/off rapid kinetics minimize interpatient variability; target cancer
Broad Activity	Active in multiple tumor cell lines and human cancer xenografts, including sarcoma
Activity in Resistant Tumors	Bypasses several known mechanisms of drug resistance Active in ifosfamide- and cyclophosphamide-resistant tumor cell lines and xenografts
Activity in ALDH (Cancer Stem Cells)	Active in ALDH3A1-overexpressing xenografts

ALDH: Potential Impact on Cancer Stem Cells

ALDH is a validated marker of cancer stem cells

ALDH+ cells are generally resistant to treatment and chemotherapy

ALDH+ cells are readily detectable in multiple subtypes of epithelial cancer, bone marrow derived cancer and sarcoma

SCLC direct patient xenografts have an abundant population of tumor cells that are ASCL1+/CD133+/ALDH1+

Hingorani P et al. Cancer Chemother Pharmacol (2009) 64: 733-40
Jiang T et al. Cancer Res (2009) 69: 845-54
Minna J. 12th Annual Targeted Therapies of Lung Cancer Meeting (2012), IASLC, Santa Monica

IPM1002: Phase 1
Palifosfamide + Doxorubicin – Early Activity in STS and SCLC

- 13 subjects with advanced/refractory cancers, 12 evaluable
  - 8 STS, 2 SCLC
- Study identified a clinically tolerable and effective dose combination
  - Doxorubicin (75 mg/m^2), palifosfamide-tris (150 mg/m^2)
  - C_{max} and AUC comparable to efficacious levels in mouse models
  - Grade 3/4 AEs: Hematologic
  - No encephalopathy, hemorrhagic cystitis, renal dysfunction
- 3 PRs: Sarcoma (2), ***SCLC (1)***

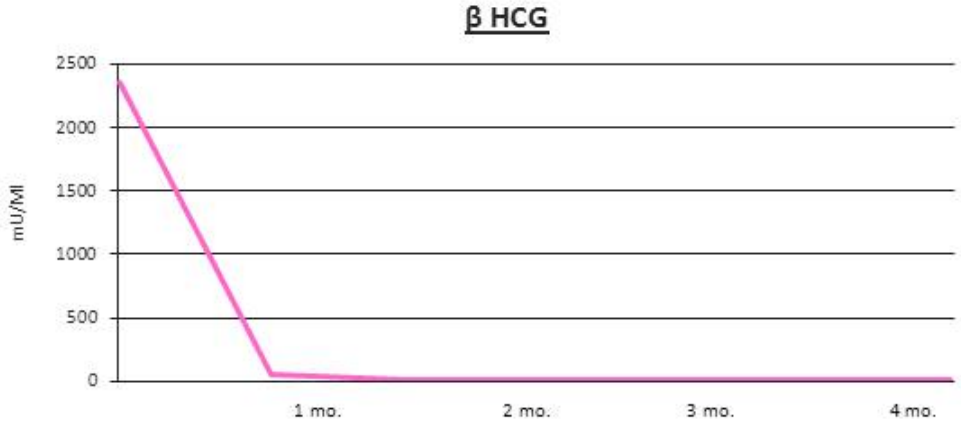
IPM1004: Phase 1b Interim Data
Palifosfamide with Carboplatin/Etoposide (PaCE)
Presented at AACR NCI EORTC

- Dose escalation palifosfamide and etoposide in selected cancers
  - SCLC
  - Other (germ cell; ovarian; uterine leiomyosarcoma; NSCLC)
- 15 patients reported at interim
  - SCLC, 5 (all previously treated in first-line setting; then progressing)
  - NSCLC, 2
  - Ovarian, 2
  - Germ Cell Tumor, 1
- SAEs in 6 patients
  - Including thrombocytopenia (4), leukopenia (2), neutropenia (2)
  - DLT = neutropenic fever
- MTD of palifosfamide = 130 mg/m^2 (with E 90 mg/m^2 and C AUC4)
- New dose cohort with E 100 mg/m^2 subsequently activated

Harb et. al. AACR NCI EORTC 2012.

Rapid Clinical Activity: Primary Mediastinal Nonseminomatous Germ Cell Tumor

- Normalization of tumor markers:
  - Previously treated (**including ifosfamide containing regimen** – developed encephalopathy)
  - β HCG reduction: 2358 to 12 mU/Ml
  - Completed 4 cycles of therapy



Harb et. al. AACR NCI EORTC 2012.

Updated Phase 1b Data
Bridge to Adaptive Phase 3 (MATISSE)

Tumor Response

Response Assessment[1]	Patients N=18	Cancer Types
PR	6	Germ Cell Tumor, NSCLC, Ovarian, SCLC (2), Uterine Leiomyosarcoma
SD	7	Ovarian (2), NSCLC, SCLC (2), Squamous Cell, DFSP
PD	5	Adenocarcinoma, Carcinoid, Pancreatic, SCLC (2)

[1] Response Assessment per RECIST 1.1 definitions and/or assessed per Biomarkers.

Clinical Benefit Rate = 67%
Range of cycles 2 – 17+

Ramaswamy Govindan, MD

MATISSE: A Phase 3 Study in Extensive-Stage Small Cell Lung Cancer

Small Cell Lung Cancer (SCLC)

- Significant unmet medical need in cancer with no new front-line therapies in decades
  - Approximately 15% of lung cancers
  - 30,000-35,000 U.S. incidence/200,000 worldwide[1] (China annual incidence alone growing to >150,000[2])

- Platinum plus etoposide SOC front-line; concurrent w/radiation in limited stage; only topotecan approved second-line

[1] SEER, Globocon.
[2] Derived from: Liu et. al. Emerging tobacco hazards in China: 1. Retrospective proportional mortality study of one million deaths. *BMJ*. 1998;317:1411.

Contemporary Phase 3 Trials in 1st Line ES-SCLC: Ifosfamide – Only Positive Study

Study	Regimen	Results
Irinotecan		
Lara PN et al. J Clin Oncol 2009;27:2530	Cisplatin + etoposide vs cisplatin + **IRINOTECAN**	**No difference in PFS or OS**
Topotecan		
Eckardt JR et al. J Clin Oncol 2006;24:2044	**TOPOTECAN** + cisplatin vs cisplatin + etoposide	**No difference in RR or OS**
Bevacizumab		
Intergroupe Francophone de Cancerologie Thoracique	Chemotherapy (including cisplatin + etoposide) ± **BEVACIZUMAB**	**Suspended**
Paclitaxel		
Niell HB et al. J Clin Oncol 2005;23:3752	Cisplatin + etoposide ± **PACLITAXEL**	**No difference in OS**; tx-related mortality higher w/paclitaxel
Pemetrexed		
Socinski MA et al. J Clin Oncol 2009;27:4787	**PEMETREXED** + carboplatin vs carboplatin + etoposide	**No difference in PFS or OS**
Ifosfamide		
Loehrer PJ et al. J Clin Oncol 1995;13:2594. (Hoosier Oncology Group)	Cisplatin + etoposide ± **IFOSFAMIDE**	**Significant survival advantage** for ifosfamide

Efficacy Rationale: Positive Phase 3 Randomized Ifosfamide Study in SCLC

Cisplatin plus etoposide with or without ifosfamide in extensive-stage small-cell lung cancer: Hoosier Oncology Group - Einhorn et. al.

VIP regimen:
etoposide (75 mg/m²), ifosfamide (1.2 g/m²), cisplatin (20 mg/m²) - days 1 to 4 x four cycles.

- Statistically significant difference in median survival 7.3 months vs 9.0 months (P=.045)
- 2-year survival 5% vs 13%
- Difference in time to progression statistically different (P = .039)

- ***Excess toxicity:*** grade 3/4 myelotoxicity, neurotoxicity, pneumonitis
- In-patient therapy, inconvenience → despite efficacy, NEVER pursued as Rx

Phase 3 in SCLC ("MATISSE")

*The MATISSE Study: **M**ulticenter **A**daptive **T**rial **I**nvestigating **S**mall Cell Lung Cancer **S**urvival **E**ndpoints*

- A Multi-center, Open-Label, Adaptive, Randomized Study of Palifosfamide, a Novel DNA Cross-linker, in Combination with Carboplatin and Etoposide (PaCE) Chemotherapy versus Carboplatin and Etoposide (CE) Alone in Patients with Extensive-Stage Small Cell Lung Cancer who have not received initial chemotherapy

MATISSE Study Design

Design	Multinational, multi-center, randomized controlled, open-label, adaptive trial
N	Up to 548 subjects
Population	Males and females, age ≥18 years, with extensive-stage small cell lung cancer
Primary Endpoint	Overall survival (OS)
Secondary Endpoints	Progression-free survival (PFS) Objective response rate (ORR) Quality of Life (QOL) Disease related symptoms

FDA Guidance on Adaptive Clinical Trial Design

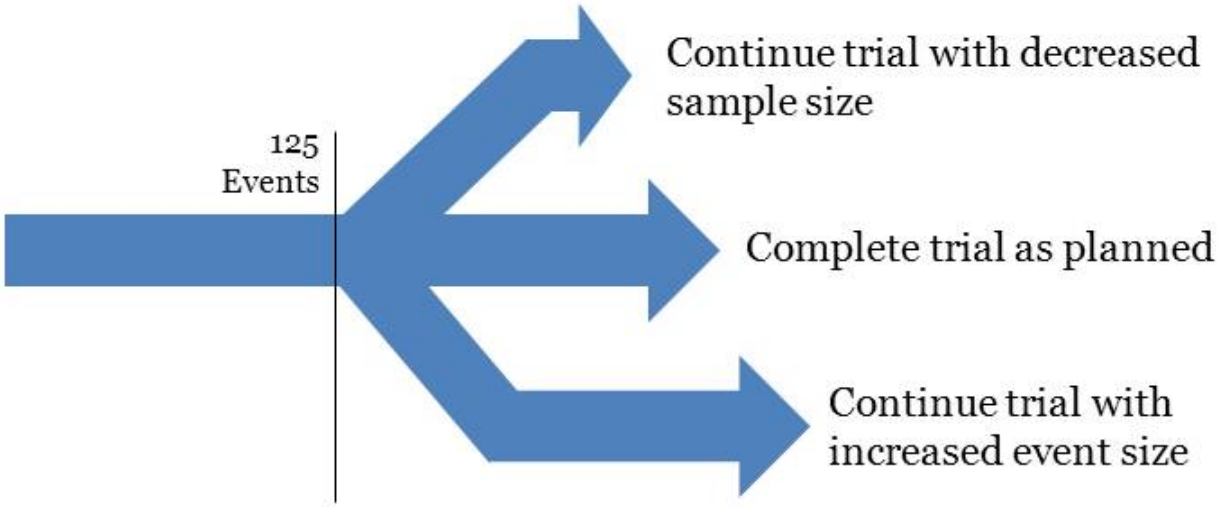
Adaptive Clinical Trial Design:

- Prospectively planned opportunity to modify the study by adjusting specified aspects of the study design and/or hypotheses
- Adjustments based on analysis of real time data (usually interim data) from subjects in the study
- Analyses of accumulating study data performed at prospectively planned time points clearly defined in the study protocol
- Can occur with or without formal statistical hypothesis testing

Conventional Trial Design:

- Fixed sample size
- Does not have any adaptive elements or characteristics

MATISSE Adaptive Trial Design



Single pre-planned evaluation by the IDMC

- *Optimize chances of success*
- Stop trial for efficacy/futility
- Complete trial as planned or resize study

Palifosfamide: Rational Development in High Unmet Medical Need

- Rationale:
  - **Ifosfamide** has been only front-line therapy to show survival benefit added to SOC… but with *excessive toxicity*, never adopted
  - *High* mutant variability in SCLC necessitates a treatment with broad DNA, multi-genomic, cancer stem cell activity
  - Palifosfamide added to SOC demonstrating activity in refractory, progressing patients… combination well tolerated

Mark Thornton, MD, PhD

Sarcoma

FDA, PFS & the
Shifting Landscape

The Changing Landscape of PFS as a Primary Endpoint

- A PFS primary endpoint in Phase 3 registration trials has undergone pendulum swings over time, and is now in favor:
  - In 2011, four products were approved based on PFS as primary trial endpoint
  - In 2012, pazopanib (Votrient®) became the 5th precedent, and the first for STS
- Rajeshwari Sridhara, PhD, Deputy Director, DBV, at FDA in 2012:

  PFS is considered clinical benefit in certain circumstances, and therefore meets requirement to grant full approval under FDA flexibility standards and practices

"PFS as Primary Endpoint Is Here to Stay"
Criteria for Full Approval Based on PFS

- Criteria for PFS (Sridhara, May 18, 2012):
  - Rare cancer
  - Large magnitude of benefit ("months not weeks")
  - High quality data
  - No negative impact/trend on OS
  - Favorable risk/benefit

- Note that setting (1st line, 2nd line) is not a factor in applying the policy. Rare is rare.
  - However, for a lead indication, sufficient numbers in safety database will be necessary

Impact of Rare Disease Advocates on PDUFA

- PDUFA reauthorization cycle coincides with intensive reform lobbying by advocacy community
  - PDUFA will mandate FDA:
    - Listen to patient input regarding acceptable risk/benefit
    - Show evidence of flexibility in rare disease settings
    - Enhance use of accelerated approval beyond HIV/oncology
- Relevance to PFS
  - FDA's OHOP is leading the way on demonstrating increased flexibility on endpoints for rare cancers
  - Full approval of pazopanib for STS is type of evidence of flexibility that Congress is looking for
  - United sarcoma patient community showing FDA support

Relevance to Regulatory Strategy for Palifosfamide in STS

- Current policy is clear by both precedent, as well as by recent public comments from senior FDA officials
- Pazopanib full approval for STS confirms sound strategy of PFS as primary endpoint for palifosfamide to attain FDA approval as lead indication in front-line STS
- PFS is appropriate primary endpoint for STS (rare cancer)
- Encouraging data to date (safety/efficacy), as well as favorable regulatory landscape, indicates palifosfamide optimized to meet other key criteria of PFS-based approval

Robert Maki, MD, PhD

The PICASSO 3 Study

Soft Tissue Sarcoma

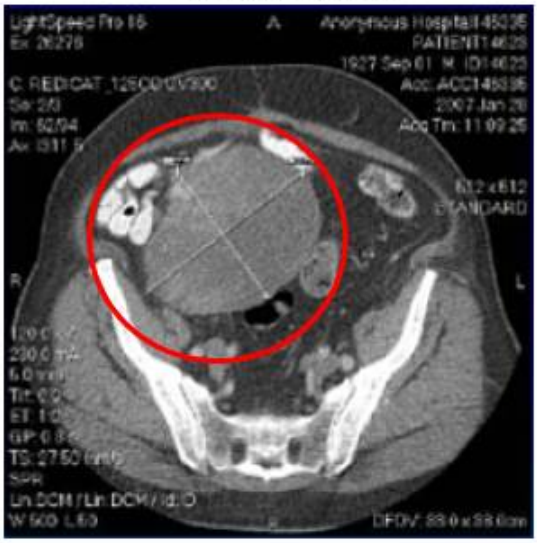
- Currently over 100,000 people diagnosed with STS worldwide; estimated metastatic front-line of 23,000 people for U.S. and Europe*
  - Estimated 9,000 treated for front-line metastatic disease in U.S., target indication
  - Estimated 14,000 being treated in Europe
- Doxorubicin alone, doxorubicin-based therapy currently SOC in front-line setting; NCCN recommends clinical trial participation whenever possible
- March 2012 ODAC; April 2012 FDA full approval of Votrient® validate PFS endpoint; May 2012 positive opinion from European CHMP

* Source: U.S.: IntrinsiQ Data, © Copyright 2012, IntrinsiQ, LLC an AmerisourceBergen Specialty Group company. All rights reserved; remainder of world Company estimated from epidemiology (SEER, NCCN).

IPM2001: Phase 1/2 (Palifosfamide Monotherapy) Effect on Tumor Mass

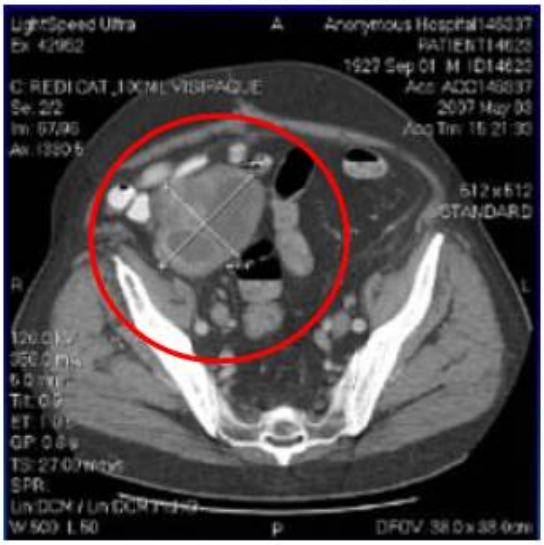
Refractory Liposarcoma

Baseline



13.9 x 11.2 cm

12 Weeks

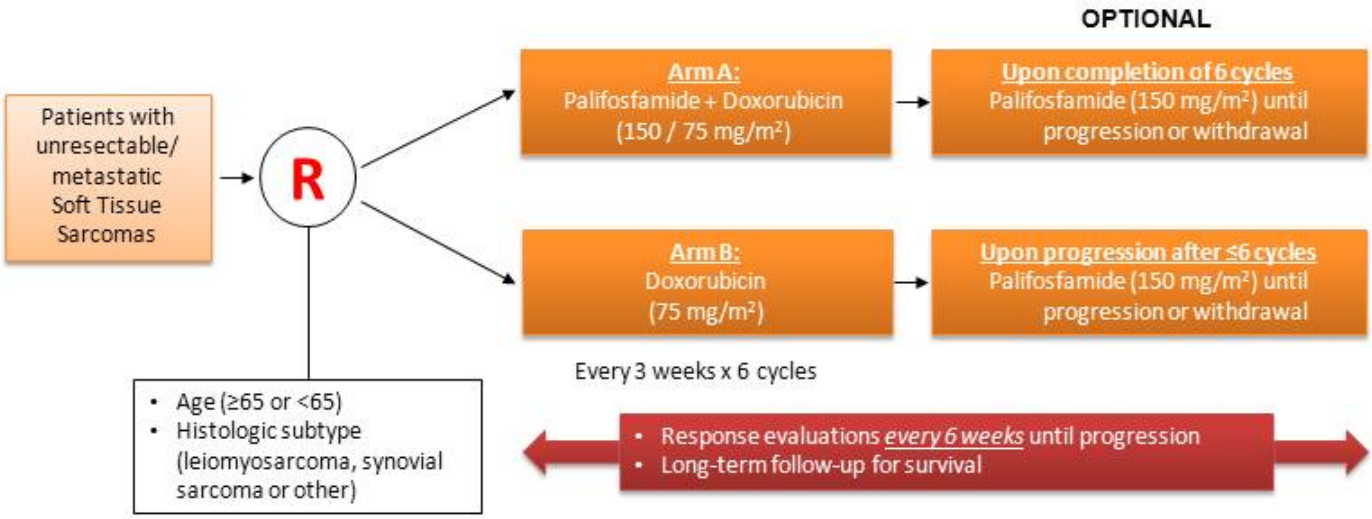


9.0 x 7.0 cm

Presented at the Liddy Schriver Sarcoma Initiative, 2009

PICASSO: A Phase 2 Randomized Study

Selected Best of ASCO (2010)



Palifosfamide-tris by IV infusion over approximately 30 minutes.
Doxorubicin by IV infusion over approximately 5 to 30 minutes.

Multicenter, Randomized, Stratified, Balanced Phase 2 Data (PICASSO)

	Arm A: Pali+Dox	***Arm B***: Dox
PFS: median	7.8 mos.	4.4 mos.
PFS: hazard ratio	0.43	
OS: hazard ratio (*with crossover*)	0.78	
2-yr survival (*with crossover*)**	40%	30%
Safety	• Similarity between arms • No encephalopathy, hemorrhagic cystitis, Fanconi's Syndrome	
Grade 3+ events	• Neutropenia and elevated creatinine (similar between arms)	

Phase 3: Correctly Modeled and Powered for PFS & OS

Source: Best of ASCO 2010 (PFS Data), internal analysis (OS Data) ** Expected 2-yr survival is 25% based on evaluation of randomized data

Phase 3 Structure (PICASSO 3)

Design Based on Successful Randomized Phase 2 Study with Similar Design

N:	Approximately 424 patients; front-line metastatic STS
Regimen:	Palifosfamide + doxorubicin vs doxorubicin + placebo
Primary Endpoint:	PFS for accelerated approval; OS for full approval Powered for PFS & OS
PFS Power:	85% power to detect 0.60 HR, 3 month median Δ (p=0.0005, one-tailed)
PFS Analysis:	Evaluation of PFS by IDMC following a pre-determined number of PFS events
Study sites:	> 150 centers worldwide
Results:	**Pivotal PFS data expected 2H 2012**

PICASSO 3 Study Schema

- Frontline metastatic STS (central review of histology)
- Neo/adjuvant Gemzar® and Taxotere® allowed for non-metastatic
- Measurable disease
- Not eligible: alveolar soft-part sarcoma, chondrosarcoma, dermatofibrosarcoma, EWS, GIST, KS, mixed mesodermal tumor/ carcinosarcoma, osteo, radiation-induced sarcoma, purely low grade
- LVEF ≥50%

RANDOMIZE 1:1

Histology (LMS, SS, other)
Age (<65 vs >=65)

Palifosfamide 150 mg/m^2 d1,2,3
+
Doxorubicin 75 mg/m^2 d1

Placebo d1,2,3
+
Doxorubicin 75 mg/m^2 d1

q21 d x 6 cycles

Palifosfamide for Front-Line Soft Tissue Sarcoma

- High unmet medical need with no new approved treatments in over 30 years in the front-line setting
- April 2012 FDA full approval of Votrient® validate PFS endpoint
- Objective of palifosfamide in combination with doxorubicin as standard of care for front-line metastatic STS
- PICASSO 3 results highly anticipated

DNA Therapeutics

DNA Therapeutics

- A revolutionary technology for the precise, controlled delivery of therapeutic proteins *in vivo*
- Lead therapeutic / early validation of the platform
  - IL-12 is a prime target for a controlled release approach
  - IL-12 is an increasingly compelling target to big pharma
- "Next-wave" of therapeutic approaches in the research pipeline (antibody technology, protein-protein decoys, immunotoxins, etc.)
- Focused, disciplined approach to development will minimize expense while driving value through near-term proof-of-concept studies

Hagop Youssoufian, MD

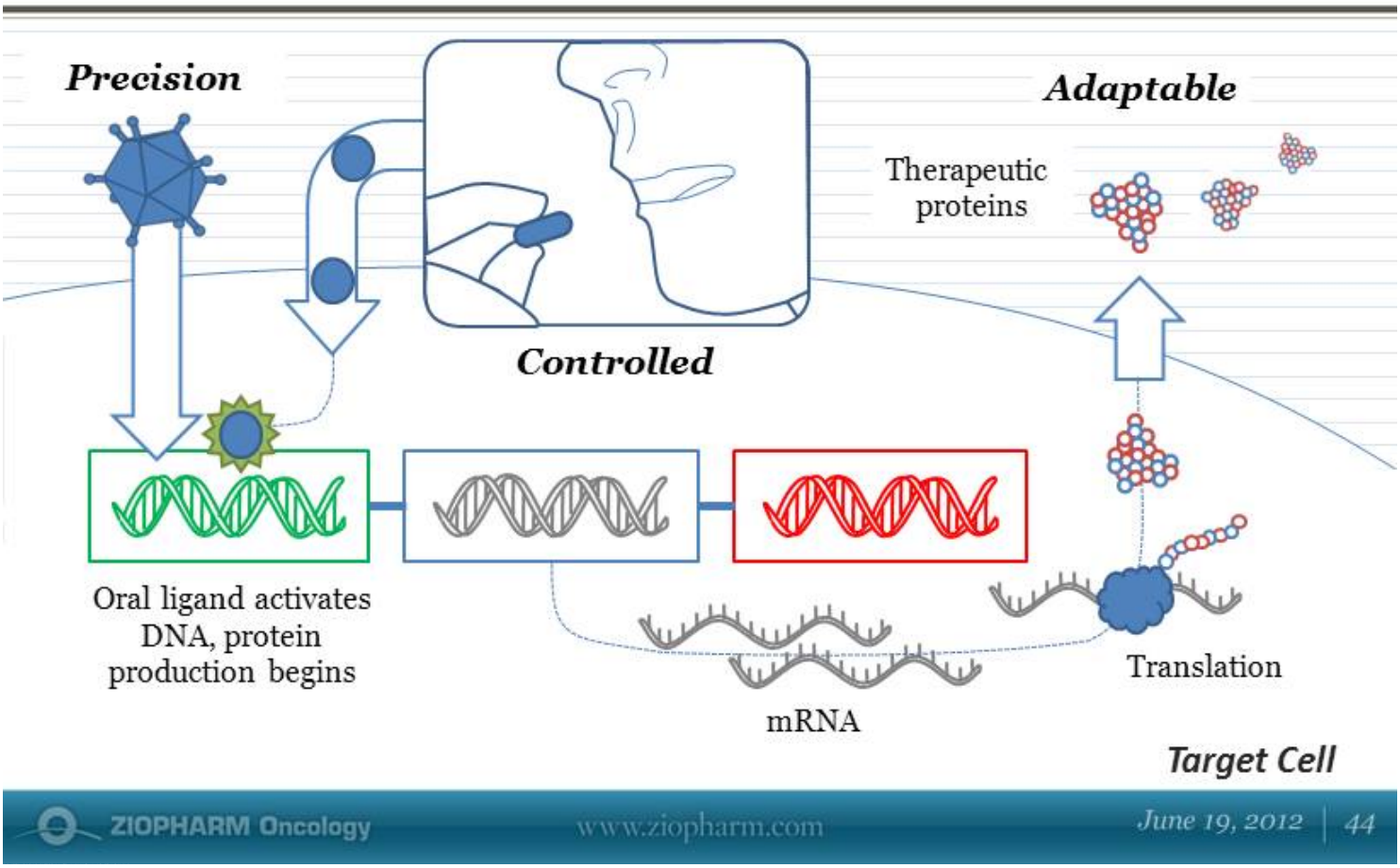
AD-IL12 and DNA Therapeutics

DNA Therapeutics: Capabilities

Leverage the power of DNA technology
to build novel therapeutic products

- ***Precision:*** control over biologic drug distribution (local/systemic)
- ***Controlled:*** *in vivo* control of dosing through first in-human biological on/off switch (RheoSwitch Therapeutic System®)
- ***Adaptable:*** multiple therapeutic protein approaches

Using Natural Cell Biology to Produce Proteins

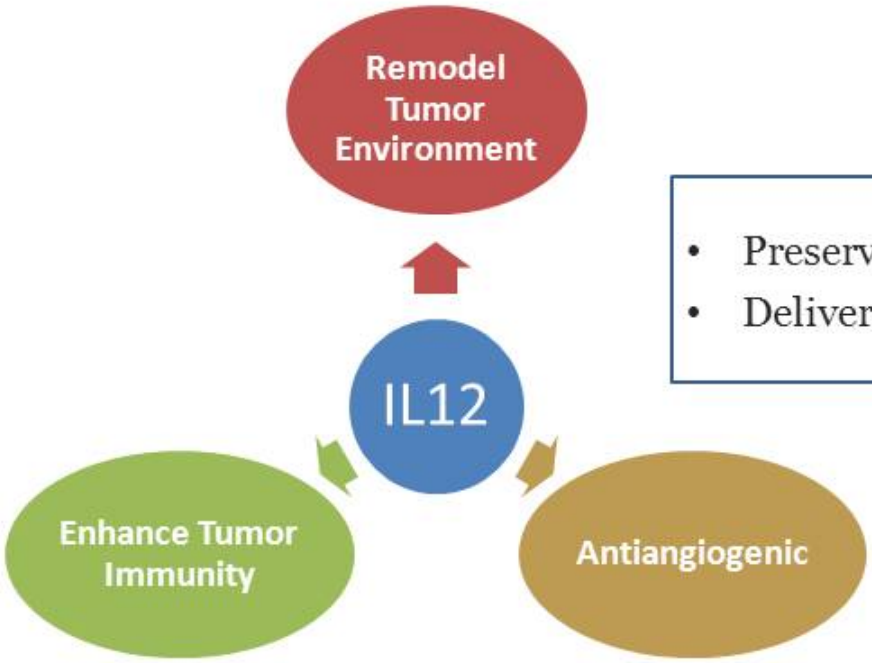


IL-12 DNA

- IL12
  - A renewed interest in an well characterized, naturally occurring cytokine
  - Activity alone and in combination

- Indications of interest
  - Melanoma
  - Breast cancer
  - Head and neck cancer

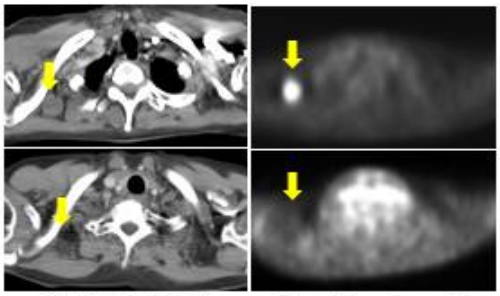
IL12: Foundation for Immunotherapy



- Preserve anti-tumor potency
- Deliver safely

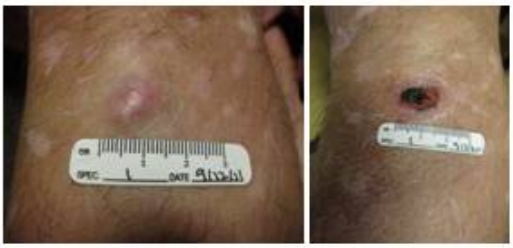
Two Clinical Stage Product Candidates

- **DC-IL12 Phase 1b in metastatic melanoma**
  - Safety profile predictable
  - 2 PRs, 2 SDs, biomarker effects



Pre-treatment Post-treatment

- **Ad-IL12 Phase 1b in metastatic melanoma**
  - Safe to date
  - Preliminary activity
  - **Significant data expected 2H 2012**



Baseline Necrosis prior to cycle 2

Phase 1/2 of Ad-IL12 + AL in Melanoma

Next Phase of Development:

- Remains a *significant unmet need* in metastatic melanoma despite evolving landscape
- Phase 2 to begin at confirmation of biologically effective dose
- Phase 2 modifications to include additional patient-selection criteria to maximize signal detection
- ***Planned to be completed 1H 2013***

Additional Clinical and Preclinical Directions: Breast Cancer

- Significant unmet medical need
- Potential for multiple approaches to treatment:
  - Ad-IL12 monotherapy
  - Ad-IL12 in combination with palifosfamide (novel-novel strategy)
- Study design under evaluation

Additional Clinical and Preclinical Directions: Head and Neck Cancer + Erbitux®

- Head and neck cancer
  - Significant unmet medical need
  - Ad-IL12 in combination with Erbitux®
  - May lead to a pivotal study
  - Various paths forward

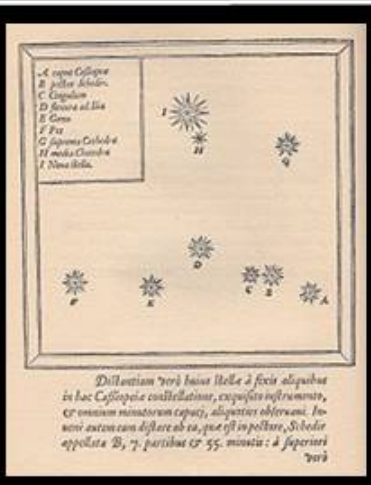
Conclusions

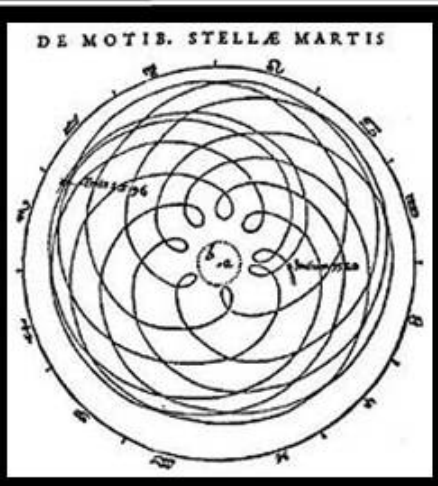
- IL12-based intratumoral therapy has yielded initial proof-of-concept and appears to be well tolerated
- Melanoma to be pursued as lead indication
  - Protocol discussions with FDA to establish and maintain alignment and clarity toward an approval path
- Head-and-neck and breast cancer opportunities being considered

Larry Norton, MD

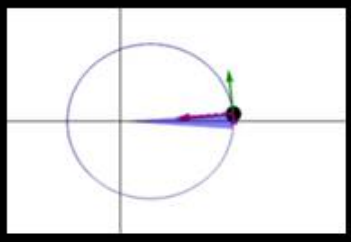
Cancer Biology in the 21st Century: Translation in the Clinic

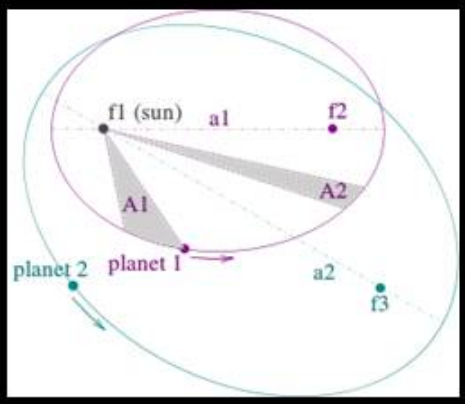
Tycho Brahe 1546-1601





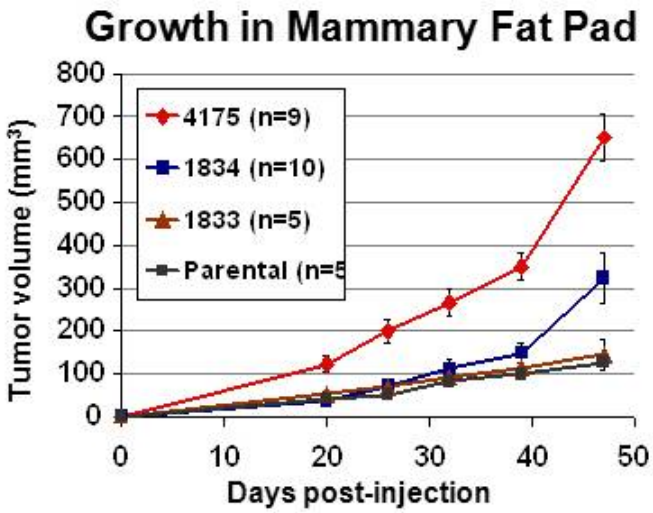
Johannes Kepler 1571-1630



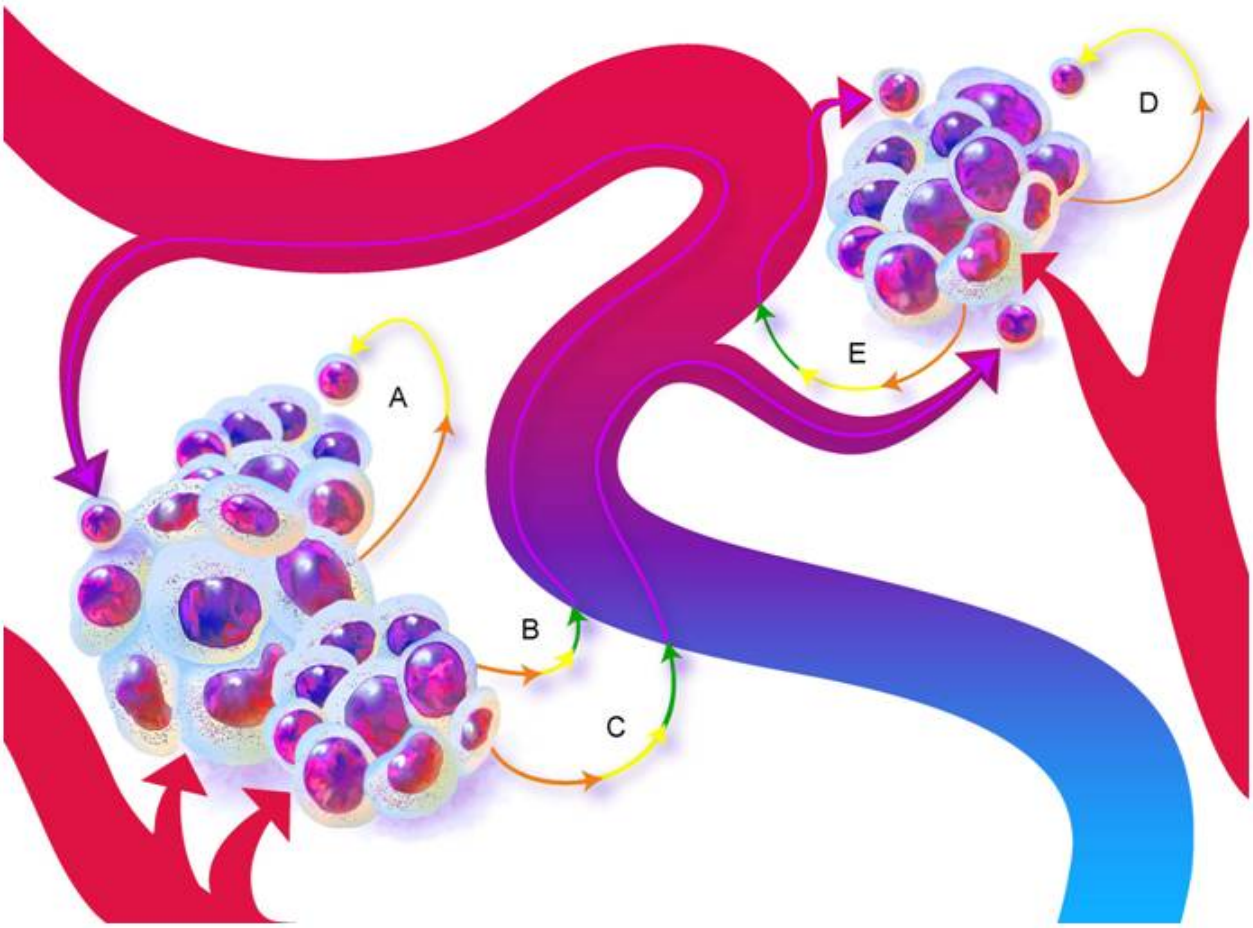


Metastatic Cell Lines Grow Faster in the Primary Site

But Ki67 (Mitotic Fraction) is Not Greater than in Non-Metastatic Lines



Minn, Gupta *et al.*, *Nature* 2005

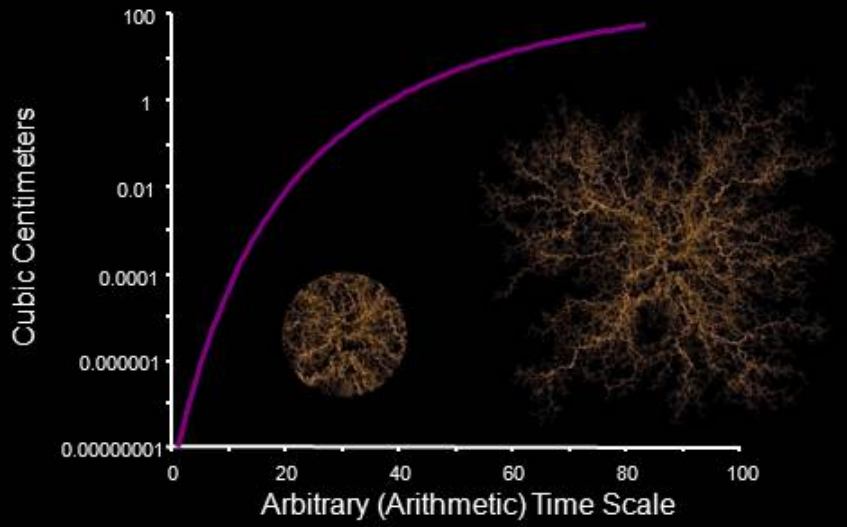


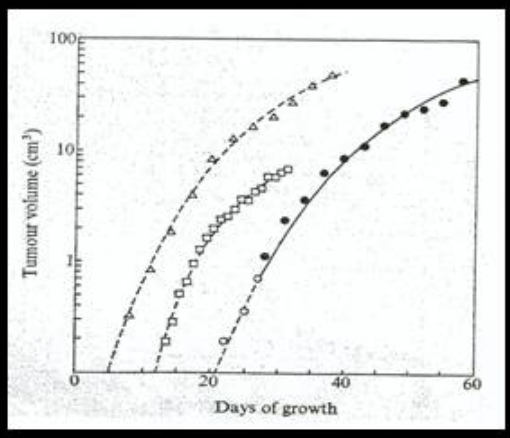
Norton, Massagué: Nature Med 2006

Self-Seeding Explains Gompertzian Growth

Smaller Tumor = Greater Surface to Volume Ratio = Faster Growth at Surface
Bigger Tumor = Lower Surface to Volume Ratio = Slower Growth at Surface
Growth from Outside → In Creates a Stellate Pattern

$$dN_t/dt = k*N_t^{a/c} - N_t^{b/c}$$



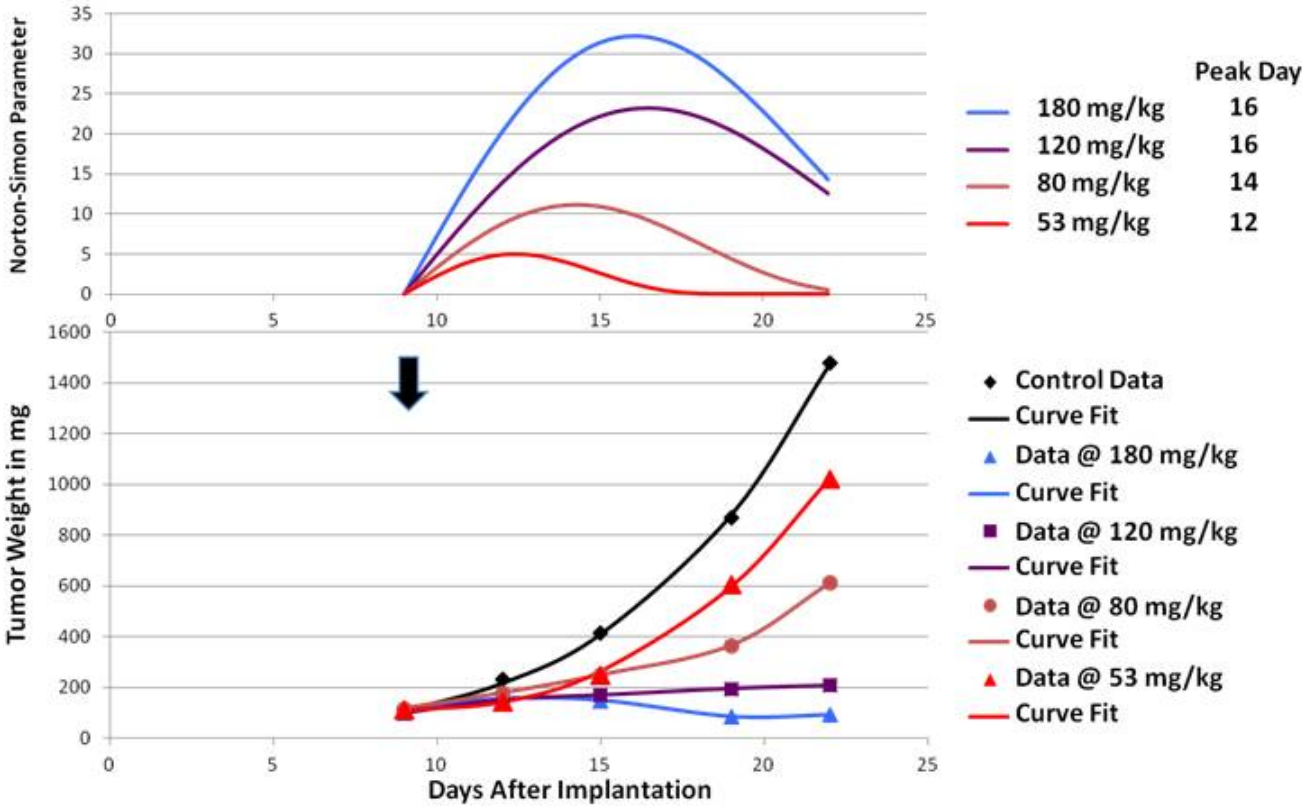


Norton L *et al.*, Nature, 1976

Figure 1

Palifosfamide I.V. *vs.* MX-1 Breast Cancer Xenograft

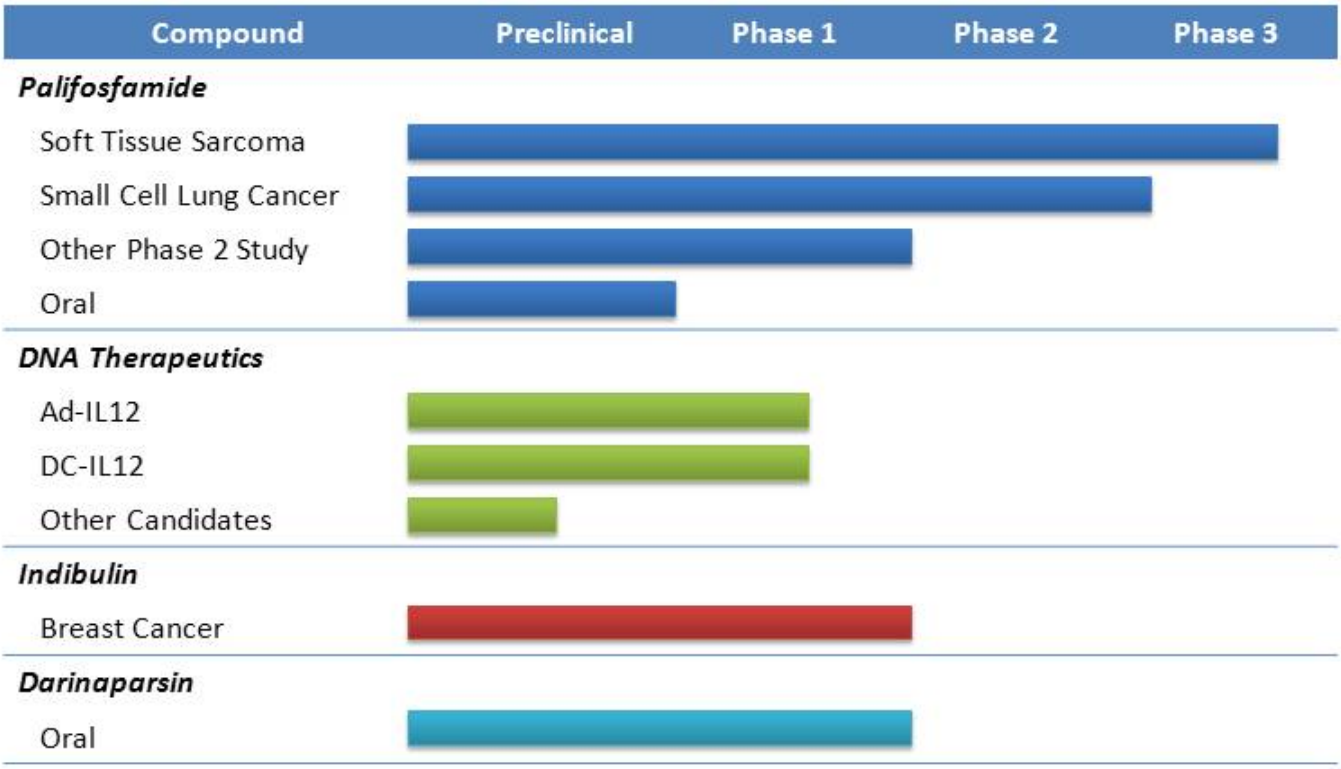
$$dN_t/dt = k*N_t^{a/c} - N_t^{b/c}$$



Jonathan Lewis, MD, PhD

In Conclusion…

Data-Driven Oncology Portfolio



Two Pivotal Programs
Representing Significant, Global Market Potential

>$1 Bn total market potential

	STS Patients Treated	Blended EU/US Price Per Patient		
		$ 30,000	$ 40,000	$ 50,000
Soft Tissue Sarcoma	9,000	$ 270	$ 360	$ 450
	10,000	$ 300	$ 400	$ 500
	11,000	$ 330	$ 440	$ 550
Small Cell Lung Cancer	14,000	$ 420	$ 560	$ 700
	16,000	$ 480	$ 640	$ 800
	18,000	$ 540	$ 720	$ 900

Asia/Latin America Opportunity: +$600 – $900 M

* Source: Based on Company projections.

(sales in millions)

Palifosfamide and DNA Therapeutics: 2012 Anticipated Key Clinical Milestones

Palifosfamide

PICASSO 3
STS Pivotal PFS Data **2H 2012**

MATISSE
SCLC Phase 3 Initiation 2Q 2012

DNA Therapeutics

IL-12 DNA Program
Phase 1 Data **2012**

Phase 2 Melanoma 2H 2012

New DNA Candidates
- Preclinical Data 2012

Balance Sheet Support Through Key Milestones

- Primary shares outstanding: approximately 79.5MM
- Cash: approximately $128MM @ 3/31/12

ZIOPHARM Highlights

An intelligent portfolio of therapeutics addressing unmet medical needs in cancer

- Palifosfamide
  - Wholly-owned asset
  - Near-term, Phase 3 study results in STS
  - Phase 3 for SCLC now enrolling
  - Potential in multiple solid and hematological tumors
  - >$1 Bn total market potential in two indications alone
- DNA therapeutics targeting established treatment pathway into Phase 2 study
  - Exploring multiple avenues for revolutionary treatment modality
- Balance sheet support through multiple key milestones

ZIOPHARM Oncology

Better Cancer Medicine

Questions