

ZIOPHARM ONCOLOGY, INC. (NASDAQCM: ZIOP)

ZIOPHARM AT ASCO 2011: EARLY DATA DEMONSTRATES PROMISING CLINICAL BENEFIT FOR PATIENTS WITH ADVANCED MELANOMA

- ❑ **ZIOPHARM/Intrexon synthetic biology partnership shows promising study results in ASCO 2011 abstract (#2540) for patients with melanoma.** The “DC-IL-12” immunotherapy demonstrated safety, clinical benefit and evidence of signal correlated with underlying immunologic response in patients with melanoma. Levels of interleukin-12 (IL-12), a potent anticancer protein, were achieved and treatment was generally well tolerated. Significantly, the RheoSwitch Therapeutic System™ (RTS) functionality was successfully demonstrated for the first time in man with “IL-12 expression only turned on when an oral small molecule activator ligand (AL) triggers the promoter of the gene”. Expect ZIOPHARM/Intrexon partnership to continue to gain momentum. ZIOPHARM has plans for five additional INDS in 2012 and eight in 2013.
- ❑ **Palifosfamide progresses in a global Phase III trial in front-line metastatic soft-tissue sarcoma (PICASSO 3) with results anticipated by mid-2012. Potential to complete patient enrollment by year-end 2011.** Potent activity in ZIOP’s randomized Phase II trial fuels our enthusiasm for what we believe is a likely approvable drug.
- ❑ **Positive small-cell lung cancer (SCLC) data expected in 2H’11 to support palifosfamide’s broader applicability and significantly increase franchise value.** This study is being conducted under the direction of Lawrence Einhorn, MD, Lance Armstrong Professor of Oncology, a major driving force behind ifosfamide’s approval. Globally, SCLC affects ~200,000 new patients each year, and represents a worldwide market opportunity that exceeds \$5 billion, by our estimates.
- ❑ **ZIOPHARM Investor Day scheduled for June 23, 2011, 5:00PM – 6:30 PM ET, at the NASDAQ Marketsite, NYC.** A panel discussion is expected to review both ZIOPHARM’s synthetic biology and small molecule programs with presentations by key opinion leaders and Intrexon Corporation management.

We believe stock is well positioned to outperform. We are reiterating our BUY rating on ZIOPHARM Oncology, Inc. (NasdaqCM: ZIOP) and maintaining our 12-month price target of \$11.00 for ZIOP shares.

Share Price (5/18/11)	\$6.85
52-Week Price Low / High	\$3.03 – \$7.85
Mkt. Capitalization (issued)	\$454.0 mil.
Shares Outstanding (issued)	68.2 mil.
12-month Target Price	\$11.00
Cash & Equiv. (3/31/11)*	\$124.0 mil.
Fiscal Year Ends	Dec. 31th
Website	ziopharm.com

*Excludes \$12 million received for the exercise of approximately 2.2 million warrants in May 2011.



ZIOPHARM Oncology, Inc. (NasdaqCM: ZIOP) is a biopharmaceutical company engaged in the development and commercialization of a diverse portfolio of cancer drugs. The Company has a worldwide exclusive channel partnership in oncology with Intrexon for the development and commercialization of DNA-based therapeutics.

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EARLY DATA AT ASCO UNDERSCORES THE PROMISE OF ZIOPHARM/INTREXON'S SYNTHETIC BIOLOGY PROGRAMS

On May 18, 2011, preliminary data was released in an ASCO abstract (#2540) on "DC-IL-12", a novel DNA-based therapeutic for patients with advanced melanoma. The ASCO abstract authored by Douglas J. Schwartzentruber, MD FACS, Medical Director of the Indiana University Goshen Center for Cancer Care, who was named in 2010 as one of TIME Magazine's Most Influential People in the World for his work in cancer research, is titled "Immunotherapy of advanced melanoma by intratumoral injections of autologous, purified dendritic cells transduced with gene construct of interleukin-12, with dose dependent expression under the control of an oral activator ligand." The abstract provides promising early data on "DC-IL-12", also known as INXN 3001/1001, from of an ongoing Phase Ib trial for the treatment of patients with melanoma to evaluate safety, mechanism of action (MOA) and clinical activity of DC-IL12. Significantly, the RheoSwitch Therapeutic System™ (RTS) functionality was also successfully demonstrated for the first time in man. That is, the production of IL-12 in the body was switched on or off with the oral activator ligand pill – controlling the timing and level of expression of the IL-12 during treatment – regulating the in-body production of this powerful therapeutic protein.

Additional data on this study is expected on June 6th at the poster session entitled "Developmental Therapeutics-Clinical Pharmacology and Immunotherapy" during the American Society of Clinical Oncology (ASCO) 2011 meeting in Chicago, USA.

The following are the ASCO Abstract #2540 highlights authored by Douglas J. Schwartzentruber, MD FACS:

Background: RTS-IL12 is a novel synthetic gene construct in an adenovirus vector, with IL-12 expression *only* turned on when an oral small molecule activator ligand (AL) triggers the promoter of the gene. Syngeneic dendritic cells (DC) transduced with RTS-IL-12 injected intra-tumorally + oral AL induced IL-12 and associated genes only locally, triggering systemic, specific anti-tumor cytotoxic T cells and regression of B16 melanoma and other mouse tumors. A Phase I trial was initiated to evaluate safety, mechanism of action (MOA) and clinical activity of DC-RTS-IL12 in patients with advanced melanoma.

Methods: Autologous immature DC-RTS-IL-12s (5x10⁷) are injected intra-tumorally, in combination with 14 days of AL (0.6, 20, 60 or 200 mg /day), for ≤ 5 treatment cycles. Safety, MOA (genomic and immunologic) and clinical responses (CT evaluation by RECIST) are being assessed.

Results: Among 7 patients treated, partial or complete regression of injected and some uninjected lesions was observed by CT in 2 patients, with 1 patient having RECIST PR of >11 months. These 2 patients had intratumoral changes in IL-12 associated gene expression, and circulating CD8+ and/or CD4+T cells reactive against several melanoma-associated peptides by ELISPOT. Treatment was generally well tolerated and MTD has not yet been reached. Accrual will end early if there are 4 or more responses.

Conclusions: This phase I trial in patients with advanced melanoma has confirmed key findings from mouse tumor models: regression of some uninjected as well as injected tumor lesions, and induction of systemic, specific anti-tumor T cell immunity even at dose levels of AL that do not trigger increases in circulating IL-12 or its associated cytokines.¹

¹ ASCO Annual Meeting 2011 Abstract #2540 "Immunotherapy of advanced melanoma by intratumoral injections of autologous, purified dendritic cells transduced with gene construct of interleukin-12, with dose dependent expression under the control of an oral activator ligand." Authors, D.J. Schwartzentruber, J.M. Kirkwood, M. Guarino, J. Richards, O. Hamid, S. O'Day, J. Nemunaitis; J. Talmadge, S. Chada, K. Menander, K. Shafer-Weaver, J. Senesac, M. Thornton, B. Hamilton, J. Lewis, and R.B. Herberman. Citation J Clin Oncology 29:2011 (suppl: abstr 2540)

OTHER HIGHLIGHTS:

- ❑ **ZIOPHARM announced that they had filed an Investigational New Drug Application (IND) for the adenovirus-mediated IL-12 (AD-IL-12) program on May 13, 2011.** INXN 2001/1001 is identical to INXN 3001/1001 except that the autologous dendritic cell component (INXN-3001) is omitted. Through intratumoral injection, Ad-RTS-IL-12 employs an adenoviral vector to deliver directly into the patient's own cells a gene which expresses Interleukin-12 (IL-12), a potent anticancer cytokine. Production of IL-12 within the cell is tightly regulated by the Intrexon RheoSwitch Therapeutic System (RTS), a "gene switch" controlled by an activator ligand taken orally.
- ❑ **Indibulin is advancing in a Phase I/II metastatic breast cancer trial at Memorial Sloan Kettering utilizing "Norton's oral dosing" schedule, which is expected to yield preliminary data by Q4 '11.** Given the prevalence of solid tumors, the commercial opportunity of such an anti-mitotic in an oral formulation and with no neurotoxicity is significant. We expect ZIOP to initially pursue a niche strategy in triple-negative breast cancer (TNBC), which represents as many as 25% of all breast cancer deaths, as an initial FDA approval pathway for indibulin.
- ❑ ZIOPHARM Investor Day scheduled for June 23, 2011, 5:00PM – 6:30 PM ET at the NASDAQ Marketsite, NYC. A panel discussion is expected to review both ZIOPHARM's synthetic biology and small molecule programs with presentations by key opinion leaders and Intrexon Corporation management.
- ❑ As of March 31, 2011, ZIOPHARM reported cash and equivalents of \$124.0 million, excluding an additional \$12 million recently received from the exercise of 2.2 million warrants in May 2011. **We believe that ZIOPHARM's cash will be sufficient to fund their operations into 2013.**
- ❑ Darinaparsin is expected to commence a pivotal program in Q4 '11 in refractory peripheral T-cell lymphoma (PTCL) under the direction of James O. Armitage, MD.

ZIOPHARM/INTREXON SYNTHETIC BIOLOGY PROGRAMS

On January 6, 2011, ZIOPHARM entered into an exclusive channel partnership with Intrexon Corporation, a synthetic biology company, to develop and commercialize novel DNA-based therapeutics in the field of cancer treatment using Intrexon's UltraVector® and RheoSwitch Therapeutic System™ (RTS) synthetic biology technologies. ZIOPHARM plans to leverage Intrexon's synthetic biology platform to develop products to stimulate key pathways used by the body's immune system to inhibit the growth and metastasis of cancers. ***We believe that the ZIOPHARM – Intrexon partnership will lead to major breakthroughs in cancer medicine.***

INTREXON'S TECHNOLOGY PLATFORM MILESTONES

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| 1H '11 | On June 6 th , 2011, during the American Society of Clinical Oncology (ASCO) 2011 meeting in Chicago, USA, ASCO abstract #2540 by Douglas J. Schwartzentruber, MD FACS, Medical Director of the Indiana University Goshen Center for Cancer Care, to be presented in the poster session entitled "Developmental Therapeutics-Clinical Pharmacology and Immunotherapy". The session will take place from 8am to noon, and Dr. Schwartzentruber's poster can be found on poster board 1A in Hall A; |
| 2H '11 | Expect preliminary data from Phase I IL-12 program with dendritic cells (DCs), to help guide selection of additional clinical programs. |

SYNTHETIC BIOLOGY

Synthetic biology is a science and technology that lies at the intersection of biology and engineering. Intrexon we believe is at the forefront of this methodology that could revolutionize the entire drug discovery process. With an intellectual property monopoly of over 400 patents and patent applications, Intrexon is redefining synthetic biology with scalable engineering of complex transgenes. Intrexon designs and manufactures transgenes which is basically an artificial or synthetic gene, incorporating all

appropriate elements critical for gene expression. It works on the principle that certain biological parts can be standardized, to be used like nuts and bolts in machinery. This standardized approach is achieved by considering each gene, or useful piece of DNA as a building block.” The cell becomes a chassis in which to carry out engineering tasks, and the DNA the building blocks.

DNA THERAPEUTICS

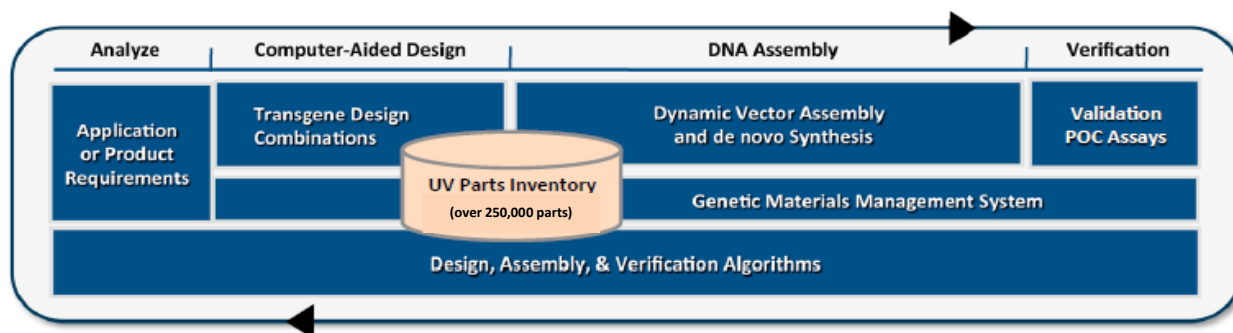
All living things are made up of cells that are programmed by the same basic genetic material...DNA. The different segments of DNA coding tell individual cells how to differentiate (or what to do) or what to produce (proteins, enzymes, etc.). Biological therapeutic products generally encompass any protein, virus, vaccine, blood product or gene transfer product. Most therapeutic proteins that are marketed today are produced in cell lines that have been modified using recombinant DNA technology. These proteins include monoclonal antibodies, cytokines, and growth factors, a market category that accounts for more than 100% of the growth in worldwide therapeutic revenues. Protein therapeutics effectively interact with target receptors to trigger a desired biological response. Starting with simple proteins such as insulin, which in many ways is the first recombinant DNA molecule which was reengineered to have improved characteristics, the use of recombinant DNA technology to make pharmaceuticals has increased rapidly. Therapeutics made using recombinant DNA technology have included proteins that help the body fight infection or carry out specific functions. They include such drugs as: cytokines; growth factors; interferons; interleukins; monoclonal antibodies (rituximab, trastuzumab, infliximab, bevacizumab); recombinant vaccines; recombinant protein or peptides, etc.

To produce these recombinant proteins, cell bioreactor technology has been an important part of bioprocess, using host organisms to express proteins. Hosts for recombinant protein production have included: Escherichia coli; animal cells (CHO); insect cells, etc. The optimization of production of proteins is a continuing objective of research with engineering and science working together to reach this objective. Each of these cell line production systems embody issues (impurities, the possibility of infection of the cell line, the presence of endotoxins, immunological response by the patients etc., that have proved problematic to the production of an ideal therapeutic.

Intrexon’s disruptive technologies advance the DNA Therapeutic paradigm – shifting the production of proteins from in the lab cell bioreactor to one where the actual patient becomes the “bioreactor”. Intrexon’s UltraVector® advanced transgene engineering platform and RheoSwitch Therapeutic System™ (RTS) are directed, in the context of Intrexon’s partnership with ZIOPHARM, towards perfecting the modular design, assembly, manufacture, optimization and control of transgenes to tightly-regulate in vivo (in the body) expression of anti-cancer effectors (therapeutic proteins such as interleukin-12 (“IL-12”)) for the purpose of treatment or prophylaxis of cancer and other diseases.

INTREXON’S ULTRAVECTOR® PLATFORM

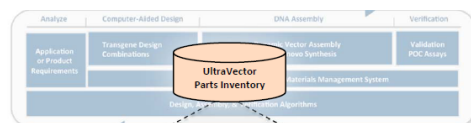
Intrexon’s UltraVector® platform enables the rapid, rational design and production of many different genes of interest (GOIs) combinations under the control of Intrexon’s RheoSwitch Therapeutic System™ (RTS) and associated activator ligand for induction and adjustable control of gene expression. Computer robotics systems, a library of over 250,000 genetic parts can be accessed, optimized and used as needed. Intrexon engineers vectors that facilitate the transcription of a particular gene. The vectors can encompass many features, including a transgene insert (a gene of interest), a backbone, and promoter(s) that facilitate the transcription of a particular gene.



Source: Intrexon Corporation

Among the many advantages of the Intrexon technology and methodology, is that the vectors are constructed in a modular fashion so as to allow for easy replacement of all major features and elements in order to provide maximum flexibility. One can rapidly assemble an array of transgenes, each containing a different combination of “promoter”, “expression”, and “regulatory modules”, in a very short period of time, as well as quickly and easily vary or redesign a newly assemble transgene. In the past, varying an assembled transgene using known methods to create an array of different transgenes, each having different promoter, expression, and regulatory modules would usually take a year or more of laboratory time. Using the methods of Intrexon, one can make the same number of desired transgenes within days or weeks, and then do the desired testing of each, thereby saving the researcher a previously large amount of time. In addition, one can assemble pre-made elements into a multitude of transgenes.

Over 250,000 UltraVector Parts in Inventory and Expanding Rapidly

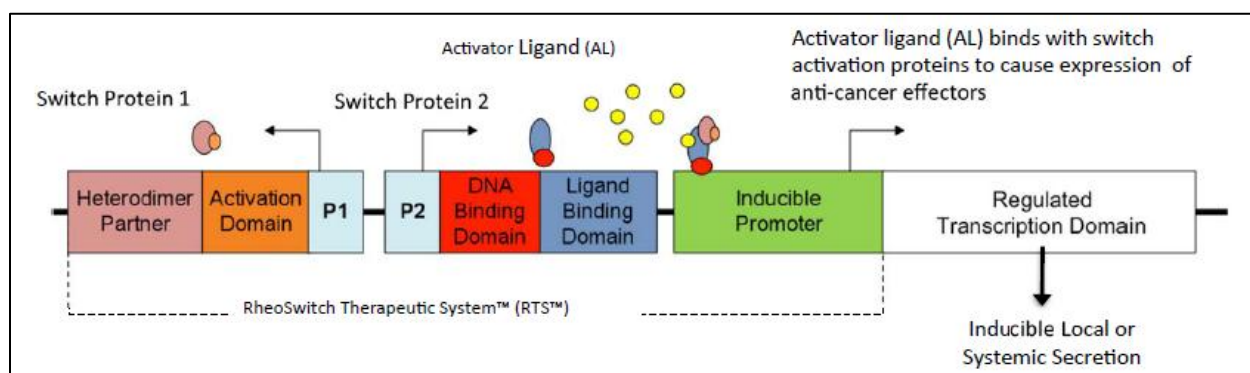


Rapidly expanding inventory provides extensive transgene design options

Type	Example Parts	Function
DNA Controls	RheoSwitch® System	regulation of gene transcription
	AttSite® Integrases	integration of transgenes into genomic loci
	Super-Secretor Sub-Systems	optimized for high protein expression
	Conditional Promoters	conditional activation/regulation of transcription
	Transcription Linkers	different proteins - one mRNA
	Subcellular Loc Signals	subcellular targeting
DNA Effectors (encoded proteins)	Decoy Inhibitors	protein-protein inhibitors
	Cytokines	immuno-modulating proteins
	Antibodies	antigen (epitope) targeting
	Growth Factors	stimulate cell growth

Source: Intrexon Corporation

INTREXON’S RHEOSWITCH THERAPEUTIC SYSTEM™ (RTS) - THE FIRST ‘IN MAN’ BIOLOGICAL SWITCH – PROVIDES IN VIVO CONTROL OF DOSING AND DISTRIBUTION



Source: Intrexon Corporation

The RTS provides exquisite control over the transgene – controlling the timing and level of transgene expression of an effector (such as IL-12) during treatment – regulating the in-body production of therapeutic proteins.

Intrexon has developed a modular inducible immunotherapy approach where transgene(s) of interest are under the control of the RheoSwitch Therapeutic System™ (RTS) (a type of gene expression modulation system) inserted into the Promoter region of the gene. **This inducible promoter is a very powerful tool in genetic engineering because the expression of genes operably linked to them can be switched “on” or “off”.** The duration and extent of transgene expression are tightly regulated by the exposure to various levels of an oral activator ligand administered in the form of an oral gel capsule.

To stimulate antitumor immunity, shuttle vectors are engineered and constructed where genes encoding for effectors (such as an immunostimulatory cytokine Interleukin-12 (IL-12)) are linked to the RTS and then incorporated into the adenoviral vector which is injected into the cancer tumor under the control of the RTS, controlling the timing and level of transgene expression of IL-12 during treatment. The activator ligand (an orally active small molecule diacylhydrazine in the form of a gel capsule) induces the activation of therapeutic gene transcription leading to the production of mRNA and ultimately the therapeutic protein (such as a protein having the function of interleukin-12 (IL-12)).

OPTIMIZING IMMUNOLOGICAL RESPONSE

Local delivery of cytokine directly into a tumor induces the immune system, and enhances anti-tumor immune response leading to tumor-specific, cytotoxic, systemic response (such as cell survival, increased capture of tumor antigens, activation of natural killer cells and cytotoxic T- lymphocytes (CTLs) and TH1s (a type of T helper cells) producing increased amounts of interferon-gamma.

CLINICAL DEVELOPMENTS FOR INXN 3001/1001 (DC-IL-12) AND INXN 2001/1001 (AD-IL-12)

In addition to access to the Intrexon technologies, under the channel arrangement, Intrexon assigned to ZIOPHARM all regulatory filings and approvals relating to two product candidates, INXN 3001/1001 and INXN 2001/1001. INXN 2001/1001 is identical to INXN 3001/1001 except that the autologous dendritic cell component (INXN-3001) is omitted. Both product candidates are targeted for further development in different indications. On May 13, 2011, ZIOPHARM announced that they filed an Investigational New Drug Application (IND) for the adenovirus-mediated IL-12 (**AD-IL-12**) program; and we expect preliminary data from Phase I IL-12 program with dendritic cells (DCs) **DC-IL-12**, expected in the 2H 2011 to help guide selection of additional clinical programs.

INXN 3001 (DC-IL-12) IN COMBO WITH ACTIVATOR LIGAND (1001)

INXN 3001/1001 is in a Phase Ib trial in the U.S. and employs intratumoral injection of modified dendritic cells from each patient (INXN-3001) and oral dosing of an activator ligand (INXN-1001) to turn on in vivo expression of interleukin-12 ("IL-12"). INXN-3001/1001 uses the RheoSwitch Therapeutic System (RTS™) to control the timing and level of transgene expression for gene and cell therapy. RTS™ functions as "gene switch" for the regulated expression of human IL-12 in the patients' dendritic cells, which are transduced with a replication-deficient adenoviral vector carrying the IL-12 gene under the control of the RTS™ and in this study injected intratumorally for the treatment of patients with stage III or IV melanoma. The binding of the small molecule activator to the fusion proteins of RTS™ is intended to regulate the timing and level of IL-12 expression. In the absence of the activator ligand, the level of IL-12 is below detectable levels.

The activator ligand has been the subject of a number of preclinical, safety and pharmacology studies under FDA and ICH guidelines. Preclinical studies in the B16 mouse melanoma model consistently induced regression of established melanoma lesions, both in those directly injected and those elsewhere in the body. Preclinical studies have shown DC-IL-12, in combination with INXN-1001, to have strong activity against a broad array of cancers, including brain, colon, renal, and pancreatic cancers and melanoma.

We expect preliminary data from Phase I IL-12 program with dendritic cells (DCs) **DC-IL-12**, expected in the 2H2011 to help guide selection of additional clinical programs.

INXN 2001 (AD-IL-12) IN COMBO WITH ACTIVATOR LIGAND (1000)

INXN 2001/1001 is identical to INXN 3001/1001 except that the autologous dendritic cell component (INXN-3001) is omitted. A replication-deficient adenoviral vector carrying the IL-12 gene under the control of the RTS™ is injected intratumorally. Oral dosing of an activator ligand (INXN-1001) is used in combination to turn on in vivo expression of interleukin-12 ("IL-12"). INXN-3001/1001 uses the RheoSwitch Therapeutic System (RTS™) to control the timing and level of transgene expression for gene and cell therapy. This product candidate is also targeted for a number of different cancer indications. ZIOPHARM announced that they had filed an Investigational New Drug Application (IND) for the adenovirus-mediated IL-12 (**AD-IL-12**) program on May 13, 2011.

HIGHLIGHTS OF THE INTREXON TECHNOLOGIES

- ✓ **Rational Design:** Intrexon's UltraVector Platform provides extraordinary capability for the design and generation of complex transgenes, which can be continually engineered until they are doing exactly what a drug developer, wants them to do. It is a versatile and fast platform with advanced componentry.
- ✓ **Better Control:** Intrexon's vectors provide control over the quantity and timing of the proteins the vector expresses – unmatched control over the function and output of living cells.
- ✓ **Scalability:** Intrexon expects to produce complex transgenes at a rate that is more than the number produced by the rest of the world combined. Intrexon's approach progresses drug development to mass customization, modularity, and an interchangeable parts hierarchy.
- ✓ **Speed and Cost Efficiency:** The partnership provides the ability to maximize success very cost efficiently. For example, to produce in-vivo data today, without the Intrexon platform, it can take years and \$3-4 million, but with the Intrexon capability, the same in-vivo data could potentially be produced in days at potentially 1/30th of the cost.
- ✓ **Aggressive Intellectual Property Strategy:** Intrexon has an established and dominant intellectual property position with over 400 patents and/or patents pending.

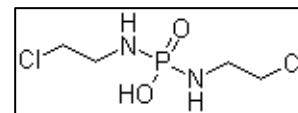
PALIFOSFAMIDE OVERVIEW

PALIFOSFAMIDE MILESTONES

2H '11	Data expected from small-cell lung cancer (SCLC) Phase I trial; significantly enhances palifosfamide's franchise value, targeting an opportunity that exceeds \$5 billion;
Late 2011	Initiate Phase I trial with the oral formulation;
Late 2011	Potential to complete patient enrollment by year-end 2011;
Mid 2012	Expect progression-free survival (PFS) results from pivotal front-line metastatic soft-tissue sarcoma trial, which would be a significant value inflection point for the palifosfamide sarcoma franchise.

ABOUT PALIFOSFAMIDE

Palifosfamide, or isophosphoramidate mustard ("IPM"), is a proprietary active metabolite of the pro-drug ifosfamide. Ifosfamide, like the related drugs cyclophosphamide and bendamustine, is a DNA alkylating agent, which is a form of cancer therapy to treat a wide range of solid tumors and hematological malignancies. Palifosfamide may have a better safety profile than ifosfamide or cyclophosphamide because it does not appear to produce known toxic metabolites of ifosfamide, such as acrolein and chloroacetaldehyde. Acrolein, which is toxic to the kidneys and bladder, can mandate the administration of a protective agent called mesna, which is inconvenient and expensive. Chloroacetaldehyde is toxic to the central nervous system, causing "fuzzy brain" syndrome for which there is currently no protective measure. Similar toxicity concerns pertain to high-dose cyclophosphamide, which is widely used in bone marrow and blood cell transplantation. Because palifosfamide is the active metabolite — without acrolein or chloroacetaldehyde metabolites — the administration of palifosfamide (without the administration of mesna) may avoid many of the toxicities of ifosfamide without compromising efficacy.²



² ZIOPHARM Oncology, Inc. SEC Form 10-K for the period ended 12/31/2010

PALIFOSFAMIDE IN METASTATIC SOFT TISSUE SARCOMA (STS)

ZIOPHARM initiated enrollment in an international, randomized, double-blind, placebo-controlled pivotal Phase III clinical trial of palifosfamide in July 2010 to assess the clinical efficacy of palifosfamide-tris administered in combination with doxorubicin, compared with doxorubicin administered with placebo in front-line patients (treating patients who have never been treated with chemotherapy for metastatic disease) diagnosed with metastatic soft tissue sarcoma (STS). The pivotal trial is expected to enroll approximately 424 patients across 150 centers in North America, Europe, South Korea, Israel, Australia and South America. The Primary Outcome Measures are: Progression Free Survival (primary endpoint for potential accelerated approval) followed by Overall Survival [Time Frame: assessed every 6 weeks for 22 weeks, then 8 weeks for 6 months/until progression, then every 12 weeks until then death]. Palifosfamide produced convincing data in its randomized Phase II trial in soft tissue sarcoma that was stopped early as a result of reaching a key efficacy milestone. In the Phase II trial, out of a total of 61 evaluable patients for progression-free survival (PFS), there were 20 documented PFS events compared to 14 events for doxorubicin alone. This analysis of all randomized and eligible patients, with a hazard ratio of 0.43 favoring palifosfamide + doxorubicin to doxorubicin alone (two-sided Wilcoxon-Gehan p-value = 0.026), statistically supports that palifosfamide prolongs PFS by at least 50%. Preliminary results from the Phase III trial are expected in mid-2012. Based on the positive data from the Phase II trial, we believe palifosfamide has a high probability of achieving its primary endpoints in the Phase III trial. We estimate that the world-wide market opportunity for soft tissue sarcoma exceeds \$800 million.

PALIFOSFAMIDE IN SMALL CELL LUNG CANCER (SCLC)

ZIOPHARM initiated a Phase I open-label study in December 2010 to define the safety profile and the maximum tolerated dose and confirm the clinical effective dose of palifosfamide-tris given intravenously in combination with etoposide and carboplatin in a wide range of cancers, including SCLC, in which etoposide and carboplatin are normally given. **This study is being conducted under the direction of Lawrence Einhorn, MD, Lance Armstrong Professor of Oncology, a major driving behind ifosfamide's approval.** Data from the study is expected to be available in the 2H 2011. Following an analysis of the Phase I data, a potential pivotal study using the three agents combined (palifosfamide + etoposide + carboplatin) is expected to commence. ZIOPHARM's strategy for approaching SCLC with palifosfamide is to provide a "friendlier" (i.e. less toxic) ifosfamide that delivers the cancer fighting component of ifosfamide but, because of its novel composition, does not have the toxic metabolites of ifosfamide that cause the debilitating side effects, which can limit dosing and treatment effectiveness. Ifosfamide has previously been tested in SCLC, both as a single agent and in combo with etoposide + cisplatin (VP), the current standard of care for SCLC. In both cases, significant positive response rates were recorded with ifosfamide. The commercial opportunity for SCLC is relatively straightforward, since it is tied almost exclusively to cigarette smoking. Globally, SCLC affects approximately 200,000 new patients per year and exceeds \$5 billion, by our estimates.

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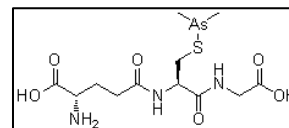
DARINAPARSIN OVERVIEW

DARINAPARSIN MILESTONES

- Late 2011** Subject to FDA review, initiate a two-stage potentially pivotal peripheral T-cell lymphoma (PCTL) trial; and
- 1H' 12** Upon completion of a Phase I trial for an oral form of darinaparsin, we expect a Phase II study in solid tumors to commence, building upon recently reported data in which darinaparsin had a significant cytotoxic and radio-sensitizing effect against different cancer cells under both normal and hypoxic conditions.

ABOUT DARINAPARSIN

Darinaparsin is an anti-mitochondrial organic arsenic compound. A form of commercially available inorganic arsenic, arsenic trioxide (Trisenox®) has been approved in the United States, the European Union and Japan for the treatment of acute promyelocytic leukemia (APL). In the United States, Trisenox is on the compendia listing for the therapy of multiple myeloma, and has been studied for the treatment of various other cancers. Nevertheless, Trisenox has been shown to be toxic to the heart, liver, and brain, which limits its use as an anti-cancer agent. Trisenox carries a “black box” warning for ECG abnormalities since arsenic trioxide has been shown to cause QT interval prolongation and complete atrioventricular block. QT prolongation can lead to a *torsade de pointes* -type ventricular arrhythmia, which can be fatal. Inorganic arsenic has also been shown to cause cancer of the skin and lung in humans. The toxicity of arsenic is generally correlated to its accumulation in organs and tissues. ZIOPHARM’s preclinical and clinical studies to date have demonstrated that darinaparsin is considerably less toxic than ATO, particularly with regard to cardiac toxicity.³



DARINAPARSIN IN REFRACTORY PERIPHERAL T-CELL LYMPHOMA (PTCL)

ZIOPHARM plans to initiate a two-stage potentially pivotal trial in 2011, subject to review by the FDA, of darinaparsin in the refractory PTCL setting under the direction of James O. Armitage, MD, Joe Shapiro professor of medicine, section of Oncology Hematology, Department of Internal Medicine at University of Nebraska Medical Center. Previously reported Phase II study results of darinaparsin demonstrated an overall response rate of 37% in lymphoma and 60% in peripheral T-cell lymphoma (PTCL) patients. An additional Phase I combo trial with CHOP-based therapy (cyclophosphamide, doxorubicin, vincristine and prednisone) began in the 4Q '10 to explore darinaparsin’s use in the front-line PTCL setting. Peripheral T-cell lymphoma (PTCL) comprises a group of rare and aggressive non-Hodgkin lymphomas that develop from T-cells in different stages of maturity. PTCL lymphomas generally do not respond well to currently available treatments. Darinaparsin is a novel organic arsenic compound that has demonstrated clinical efficacy and a favorable safety profile in hematological cancers and solid tumors. Its mechanism of action includes disruption of mitochondrial functions and induction of apoptosis.⁴ An oral formulation of darinaparsin is also advancing in an ongoing Phase I trial, which provides the potential for much expanded patient access.

DARINAPARSIN COLLABORATION WITH SOLASIA PHARMA

ZIOPHARM announced in March 2011 that they entered into an exclusive license and collaboration agreement with Solasia Pharma K.K. for the development and commercialization of darinaparsin in Asian markets. ZIOPHARM will receive an upfront payment of \$5 million, plus future milestone payments related to clinical and commercial developments of up to \$86 million and a double-digit royalty on any future product sales in the applicable territories. Darinaparsin’s target indication thus far, peripheral T-cell lymphoma (PTCL), is nearly twice as prevalent in Asia as it is in North America. We believe that this collaboration gives ZIOPHARM access to this significant market and validates the clinical data generated to date by the darinaparsin program.

³ ZIOPHARM Oncology, Inc. SEC Form 10-K for the period ended 12/31/2010

⁴ Elena Kolobova, M. Cecelia Larocca and James R. Goldenring, “Evaluation of RNA-stress granules formation as an indication of response to Darinaparsin in cancer cell lines”, April 2010, AACR

INDIBULIN OVERVIEW

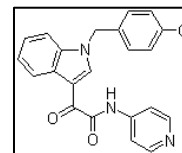
INDIBULIN MILESTONES

Late 2011 Initial data and presentation at a peer-reviewed meeting (likely at the San Antonio Breast Cancer Symposium) expected from the Phase I/II trial with improved novel formulation of Indibulin with increased bioavailability in metastatic breast cancer at Memorial Sloan Kettering with Norton dosing; and

Late 2011/Early 2012 Initiate Phase II portion of the Phase I/II trial in metastatic breast cancer with new improved formulation.

ABOUT INDIBULIN

Indibulin is a novel synthetic anti-mitotic agent that binds to tubulin, destabilizes microtubulin polymerization, and arrests cell growth at the G2/M phase. Microtubulins are well-established targets for anti-cancer drug development, and tubulin-binding drugs such as taxanes and vinca alkaloids are currently widely used in chemotherapies to treat cancer. Indibulin is not only an interesting drug because it is active against taxane-resistant cells without the neurotoxicity seen with all the other tubulin binding agents, but also because “Norton’s dose density scheduling” to accelerate and optimize chemotherapy that targets the Gompertzian growth model has revealed a novel dose schedule that promises to maximize efficacy and minimize toxicity. Also, as an oral drug, it is potentially of value to the entire world’s population.⁵

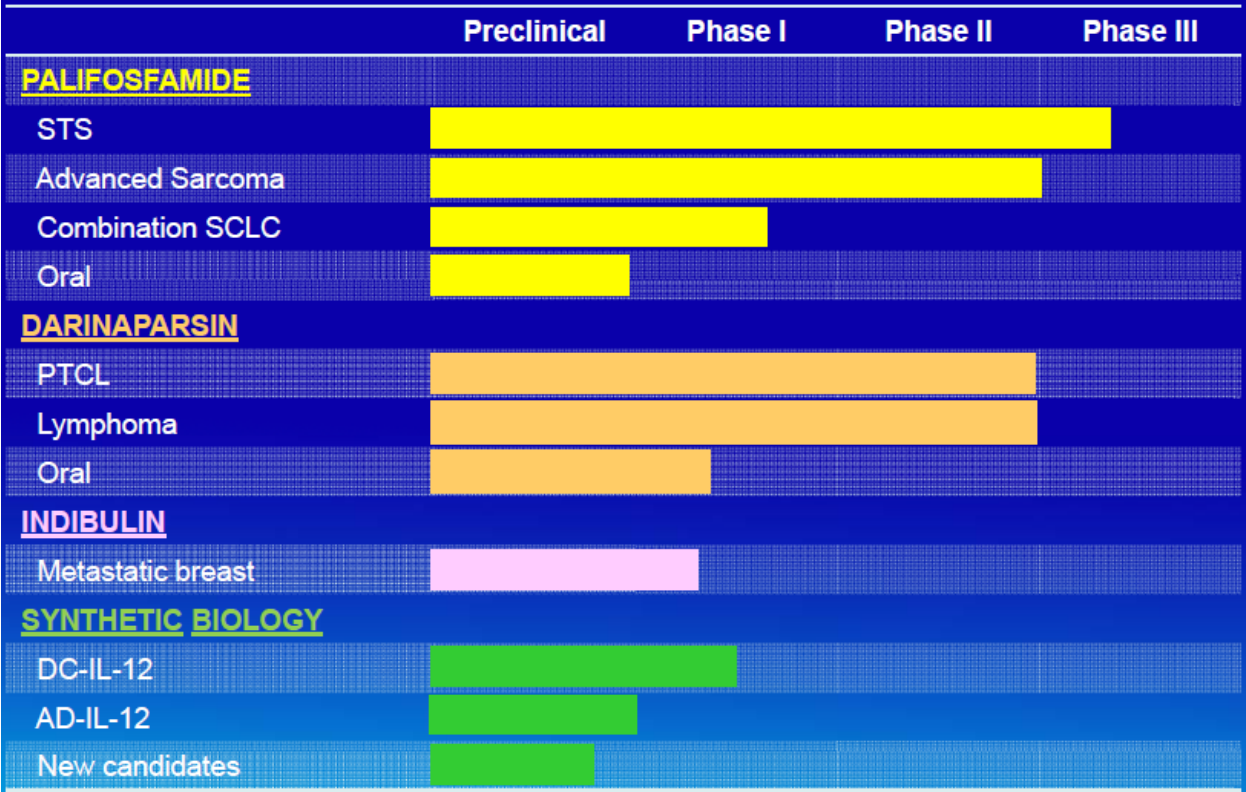


INDIBULIN IN BREAST CANCER UTILIZING “NORTON’S DOSING” SCHEDULE

Dr. Larry Norton, Physician in Chief in charge of Breast Cancer at Memorial Sloan Kettering, and Dr. Murray Brennan, who is also Emeritus Chairman of Surgery, Memorial Sloan-Kettering Cancer Center and widely regarded as being one of the best and most famous surgeons in the world, have been guiding the development of indibulin. A Phase I/II study in breast cancer using a new and improved formulation of indibulin and Norton’s novel dosing scheduling strategy is expected to yield preliminary data by the end of the year. Indibulin is not only an interesting drug because it is active against taxane resistant cells without the neurotoxicity seen with all the other tubulin binding agents, but also because mathematical modeling by Dr. Larry Norton has revealed a novel dose-schedule that promises to maximize efficacy and minimize toxicity in the clinic. ZIOPHARM is likely to pursue a niche strategy in triple-negative breast cancer (TNBC) as an initial FDA approval pathway for indibulin. TNBC represents only 15% of all breast cancer cases but accounts for as many as 25% of all breast cancer deaths. Most breast cancers are characterized by the presence of three receptors (proteins found inside or on the surface of breast cells) – estrogen, progesterone, and HER2. These receptors are not “expressed” in women with TNBC, and thus, since most treatments available today are aimed at those receptors, triple-negative tumors generally do not respond to the available receptor-targeted treatments. As a result, TNBC is difficult to treat, and the tumors are often more aggressive. On a positive note, this type of breast cancer is typically responsive to chemotherapy, which further solidifies the logic behind ZIOPHARM’s clinical and initial niche FDA registration route. Indibulin is also oral, so it is potentially of value to a broad patient population. We believe that given the prevalence of solid tumors, the commercial opportunity of such an anti-mitotic in an oral formulation and with no neurotoxicity is significant.

⁵ ZIOPHARM Oncology, Inc. SEC Form 10-K for the period ended 12/31/2010

ZIOPHARM PIPELINE



Source: ZIOPHARM Oncology Presentation May 2011

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FINANCIAL FORECASTS & VALUATION ANALYSIS

VALUATION SUMMARY FOR ZIOP SHARES

ZIOPHARM has a small-molecule pipeline that includes palifosfamide, darinaparsin and indibulin and a DNA-based therapeutics pipeline through its exclusive oncology partnership with Intrexon. Our sum-of-the-parts valuation model is based on: (i) a discounted cash flow model for the three small molecule oncology programs using a discount rate of 12.5% and weighting the cash flows from each program by the estimated probability of occurrence based on the current stage of clinical development that yields an approximate value of \$8.00 per share and (ii) a comparable transaction model for the Intrexon technology platform, assuming that one of the DNA programs is validated in the next 12 months, adds an additional value of approximately \$3.00 per share. Together, our sum-of-the-parts model supports a valuation of \$11.00 per share over the next 12 months. **We reiterate our BUY rating and maintain our 12-month price target of \$11.00 for ZIOP shares.**

VALUATION OF THE EACH COMPOUND GENERATED USING INTREXON'S PLATFORM

Below is a table of publically disclosed transactions that closed within the last 30 months involving technology/R & D drug development platforms.

The table shows that price paid per drug in development ranged from \$48 million to \$560 million with a median of \$196 million. The larger valuations were attributed to novel platforms that are being utilized to develop potential blockbuster drugs and run cost efficient trials that require small patient numbers to reach statistical significance with the potential to accelerate clinical trials. We believe Intrexon's deep technology platform has the potential to engineer numerous blockbuster drugs and, accordingly, command high value metrics. We assigned a technology valuation of approximately \$3.00 per share price per compound generated with the Intrexon platform (\$500 million per drug divided by an estimated 98.6 million fully diluted FY2014E shares outstanding divided by 50% share to ZIOP). **More importantly, the Intrexon platform is very scalable and has the potential to generate numerous compounds within the next 12-36 months, which would add substantial upside value to ZIOPHARM shareholders.**

Recent Licensing Deals and Acquisitions

Target Company	Acquirer/Licensee	Date	Technology/R&D Pipeline	Price (\$ mill.)	Price per Drug (\$ mill.)
Seattle Genetics	Pfizer	1/6/2011	antibody-drug conjugate (ADC) platform	\$200	\$200
Lpath	Pfizer	12/20/2010	Bioactive lipid-targeting mAb platform	\$497	\$497
Trubion Pharmaceuticals	Emergent	10/28/2010	Protein therapeutics platform	\$96	\$48
ImmunoGen	Novartis	10/11/2010	Tumor-targeting mAb technology	N/A	\$200
Zymogenetics	Bristol-Myers Squibb	9/7/2010	Protein therapeutics platform	\$885	\$221
Alnara	Eli Lilly	7/21/2010	Enzyme replacement platform	\$388	\$388
TargeGen	Sanofi	6/30/2010	JAK2 inhibitor platform	\$560	\$560
CGI Pharma	Gilead	6/25/2010	Small molecule kinase inhibitors	\$120	\$120
Seattle Genetics	GlaxoSmithKline	12/21/2009	antibody-drug conjugate (ADC) platform	N/A	\$390
CuraGen	Celldex	5/29/2009	antibody-drug conjugate (ADC) platform	\$94	\$94
Micromet	Bayer	1/12/2009	BiTE antibody technology platform	\$290	\$290
Arius Research	Roche Holdings	7/23/2008	Antibody selection platform	\$191	\$191
Mirus Bio Corp.	Roche Holdings	7/22/2008	RNAi ploymer delivery technology	\$125	\$125
Kosan Biosciences	Bristol-Myers Squibb	6/26/2008	HSP90 inhibitor & epothilone platforms	\$190	\$95
Coley Pharmaceuticals	Pfizer	11/16/2007	TLR therapeutic platform	\$164	\$55
Ablynx	Boehringer Ingelheim	9/7/2007	10 antibody fragment-based drugs	\$1,800	\$180

Valuation Analysis

	Price	Price per Drug
Average (\$ mill.):	\$400	\$228
Median (\$ mill.):	\$196	\$196

VALUATION OF PALIFOSFAMIDE, DARINAPARSIN, AND INDIBULIN

Our DCF model suggests a value of \$8.37/fully-diluted share for ZIOP's clinical pipeline of oncology candidates (palifosfamide, darinaparsin, indibulin) using a 12.5% discount rate. Annual cash flows are probability weighted, according to the proportionate annual revenue contributions from each drug/indication and the probability of commercialization, based on each drug's stage of development. This does not include the Intrexon-related synthetic biology platform or pipeline.

	2011	2012	2013	2014
<i>\$ in thousands, except per share data</i>				
<i>FY ending December 31</i>				
	2011	2012	2013	2014
Revenue	\$ 8,000	\$ 6,000	\$ 30,591	\$ 56,611
Operating income	(59,400)	(64,770)	(43,718)	(22,413)
Net income	(58,900)	(64,270)	(43,218)	(21,913)
Depreciation/amortization	350	350	350	350
Stock-based compensation	1,600	1,700	1,700	1,700
Tax loss carryforwards	-	-	-	-
Capital gain (expenditures)	(400)	(400)	(425)	(425)
Total cash flow adjustments	1,550	1,650	1,625	1,625
Free cash flow	\$ (57,350)	\$ (62,620)	\$ (41,593)	\$ (20,288)
Gross profit weighted probability	100.0%	100.0%	100.0%	100.0%
Risk-adjusted free cash flow	\$ (57,350)	\$ (62,620)	\$ (41,593)	\$ (20,288)

Discount Rate	Discounted Cash Flows (2008 - 2023)	PV of Terminal Value at a			Enterprise Value		
		Perpetual growth rate of rFCF					
		2.0%	3.0%	4.0%	2.0%	3.0%	4.0%
7.5%	\$596,326	\$ 1,322,591	\$ 1,632,349	\$ 2,119,110	\$1,918,917	\$2,228,675	\$2,715,436
10.0%	\$431,929	\$ 644,073	\$ 743,300	\$ 875,602	\$1,076,002	\$1,175,229	\$1,307,532
12.5%	\$310,747	\$ 350,298	\$ 390,968	\$ 441,206	\$661,045	\$701,714	\$751,953
15.0%	\$220,662	\$ 203,472	\$ 222,589	\$ 245,182	\$424,134	\$443,251	\$465,844
17.5%	\$153,183	\$ 123,599	\$ 133,419	\$ 144,693	\$276,783	\$286,602	\$297,876

Discount Rate	Net Debt	Total Equity Value			Value per Diluted Share		
		2.0%	3.0%	4.0%	2.0%	3.0%	4.0%
7.5%	\$ (124,037)	\$2,042,954	\$2,228,675	\$2,839,473	\$ 20.72	\$ 22.60	\$ 28.80
10.0%	(124,037)	\$1,200,039	\$1,299,266	\$1,431,569	\$ 12.17	\$ 13.18	\$ 14.52
12.5%	(124,037)	\$785,082	\$825,751	\$875,990	\$ 7.96	\$ 8.37	\$ 8.88
15.0%	(124,037)	\$548,171	\$567,288	\$589,881	\$ 5.56	\$ 5.75	\$ 5.98
17.5%	(124,037)	\$400,820	\$410,639	\$421,913	\$ 4.07	\$ 4.16	\$ 4.28

Discount Rate	Terminal Value as % Enterprise Value			Implied EBITDA Multiple		
	2.0%	3.0%	4.0%	2.0%	3.0%	4.0%
7.5%	68.9%	73.2%	78.0%	11.50	14.20	18.43
10.0%	59.9%	63.2%	67.0%	7.91	9.13	10.75
12.5%	53.0%	55.7%	58.7%	6.03	6.73	7.59
15.0%	48.0%	50.2%	52.6%	4.87	5.32	5.86
17.5%	44.7%	46.6%	48.6%	4.08	4.41	4.78

Notes to the Valuation Model

- Assumes palifosfamide, indibulin, and darinaparsin are partnered/out-licensed before commercial launch and partner(s) will assume all COGS (drug manufacturing, shipping, and storage costs) upon commercialization.

- Assumes Research and Development (R&D) expenses of \$57 million in 2011, growing 5% per year thereafter to advance the existing pipeline, as well as new candidates generated with Intrexon's technology.
- Assumes General and Administrative (G&A) expenses of \$10.4 million in 2011. We assume G&A expense will increase at an annual rate of 5% thereafter.
- Assumes the Company books tax liabilities at a rate of 38% upon profitability for financial reporting purposes. Assumes the Company has net operating loss carryforwards of approximately \$7.8 million to apply to future income tax obligations.
- The Company currently has 68.2 million common shares issued, 4.7 million options outstanding, 13.3 million warrants outstanding (excluding 2.2 million warrants exercised in May 2011 for proceeds of \$12 million), and 248,752 unvested shares of restricted stock. Our share estimates take into account the 6,053,933 million new shares issued upfront plus the additional 7.495% of outstanding shares (we assume approximately 6 million shares) issuable upon initiation of the first Phase II trial through the technology license from Intrexon, 11 million new shares issued in a February 2011 equity financing, approximately 4 million shares issued in an equity financing in 2012 to fund ongoing research and development, and new shares issued through the exercise of options and warrants.

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PALIFOSFAMIDE, DARINAPARSIN, AND INDIBULIN ESTIMATES

Palifosfamide

First Line Soft-Tissue Sarcoma

Year penetration starts	2013	Incidence	34000
Starting penetration rate (first 12 months)	15.0%	Percent addressable	75%
Years between penetration start and peak	5	Market growth rate	1%
Peak penetration	60%	Price per patient	\$30,000
Duration of peak penetration in years	3	Treatment price growth	3%
Retention rate in decline years	100%	Royalty rate	15%
Stage of development	Phase III	Probability of commercialization	70%

First Line Small-Cell Lung Cancer (SCLC)

Year penetration starts	2015	Incidence	200000
Starting penetration rate	5.0%	Percent addressable	90%
Years between penetration start and peak	6	Market growth rate	3%
Peak penetration	45%	Price per patient	\$30,000
Duration of peak penetration in years	3	Treatment price growth	3%
Retention rate in decline years	100%	Royalty rate	15%
Stage of development	Phase I	Probability of commercialization	20%

Palifosfamide stopped enrollment early in a randomized Phase II clinical trial in soft-tissue sarcoma. A pivotal study commenced in July 2010. We assume the following:

First-Line Soft-Tissue Sarcoma:

- The patient population is estimated to be 34,000 patients. This includes approximately 10,000 in the U.S., approximately 20,000 in Europe, and approximately 4,000 in Japan.^{6,7}
- 75% of the patient population is considered eligible for chemotherapy, based upon their general health status.
- The patient population is expected to grow roughly in line with the world's population.
- We assume that the first marketing approval for this indication in the U.S. is received in 2H 2013 and that a good therapeutic index of the drug results in 15% of the patient population treated in its first 12 months. We also assume that European and Japanese launches will trail by 12 and 18 months, respectively.
- Five years after palifosfamide approval, its sales peak, with a market penetration of 60%. This takes into account the drug's favorable efficacy and side effect profiles, and an established market based on the use of doxorubicin and ifosfamide, which are major players in the therapy.
- Sales remain stable after peaking.
- The average patient's cost of therapy is \$30,000 per annum (\$5,000 per cycle), followed by 3% price increases.
- ZIOPHARM partners selectively regional rights to palifosfamide in exchange for milestone payments and a 15% royalty rate.
- The probability of commercialization is 70%, reflecting palifosfamide stage of clinical development and historical drug development success rates.

⁶ Surveillance Epidemiology and End Results (SEER), National Cancer Institute, 2009.

⁷ Casali et al. Clinical Recommendations: Soft Tissue Sarcomas: ESMO Clinical Recommendations for Diagnosis, Treatment, and Follow-up. *European Society for Medical Oncology (ESMO)*. 2009.

First-Line Small-Cell Lung Cancer:

- The patient population is estimated to be 200,000 patients, (approximately 35,000 in U.S., approximately 50,000 in Latin America, approximately 50,000 in Europe, approximately 15,000 in Japan, and approximately 50,000 in the rest of Asia)⁸.
- 90% of the patient population is eligible for treatment.
- We expect the product to begin generating revenue in 2015 following U.S. approval, with peak penetration in the market of 45% in 2021.
- The market growth rate is expected to grow about 1% per year.
- Sales remain stable after peaking.
- The average patient's cost of therapy is \$30,000 per annum (\$5,000 per cycle)⁹, followed by 3% price increases.
- ZIOPHARM partners selectively regional rights to palifosfamide in exchange for milestone payments and a 15% royalty rate.
- The probability of commercialization is 20%, reflecting palifosfamide stage of clinical development and historical drug development success rates.

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⁸ Surveillance Epidemiology and End Results (SEER), National Cancer Institute, 2009.

⁹ An estimate derived from comparable drugs including trisenox, Treanda (bendamustine), and Folutyn (pralatrexate)

Darinaparsin

Refractory Peripheral T-Cell Lymphoma - U.S. & Europe

Year penetration starts	2015	Incidence	23000
Starting penetration rate	25%	Percent addressable	100%
Years between penetration start and peak	4	Market growth rate	3%
Peak penetration	85%	Price per patient	\$30,000
Duration of peak penetration in years	4	Treatment price growth	3%
Retention rate in decline years	90%	Royalty rate	15%
Stage of development	Phase II	Probability of commercialization	40%

Refractory Peripheral T-Cell Lymphoma - Asia

Year penetration starts	2015	Incidence	29000
Starting penetration rate	25%	Percent addressable	100%
Years between penetration start and peak	4	Market growth rate	3%
Peak penetration	85%	Price per patient	\$30,000
Duration of peak penetration in years	4	Treatment price growth	3%
Retention rate in decline years	90%	Royalty rate	12%
Stage of development	Phase II	Probability of commercialization	40%

On March 7, 2011, ZIOPHARM announced that they out-licensed darinaparsin to Solasia Pharma K.K. for development and commercialization rights in Asian markets in exchange for an upfront payment of \$5 million. In addition, ZIOPHARM will be eligible to receive development-based milestones of \$32.5 million, sales-based milestones of \$53.5 million, and a double-digit royalty on net sales, if darinaparsin is successfully commercialized by Solasia. In the U.S., darinaparsin has completed a Phase II trial in lymphomas with favorable data in peripheral T-cell lymphoma (PTCL) and is expected to advance to a pivotal trial in PTCL by the 4Q '11. Darinaparsin is also currently in a Phase I trial evaluating oral dosing. We have not included the off-label potential of darinaparsin in other Non-Hodgkin's lymphoma indications in the U.S., Europe, and Asia. Given that the estimated incidence of NHL is 35,000, 45,000, and 75,000, in the U.S., Europe, and Asia, respectively, off-label use could provide as additional \$300 to \$400 million in revenue. We assume the following:

Refractory Peripheral T-cell lymphoma:

- The incidence population is estimated at 23,000 patients in the U.S. and Europe (approximately 9,000 in the U.S. and approximately 14,000 in Europe) and 29,000 in Asia (approximately 4,200 in Japan and approximately 25,000 in China). All patients are considered eligible for darinaparsin therapy, given the aggressiveness of the disease and the lack of alternative therapies.
- The patient population is expected to grow in line with the populations of the selected markets.
- The first regulatory approval for this indication in both the U.S. and the rest of the world is received in 2015. The drug's efficacy and minimal competition enable it to penetrate 25% of the market in its first year and to reach 85% of the patient population in four years.
- The drug's sales remain at their peak for four years before declining with the advent of additional therapies.
- The price of treatment is \$30,000 (\$5,000 per cycle) in its initial year on the market, followed by 3% annual price increases.
- ZIOPHARM out-licenses darinaparsin to a marketing partner(s) for global development and distribution in exchange for milestone payments and a 15% royalty rate.
- ZIOPHARM receives a royalty of 12% of net sales in Asia pursuant to the out-license agreement with Solasia Pharma.
- The probability of commercialization is 40%, reflecting darinaparsin's stage of clinical development and historical drug development success rates.

Indibulin**Metastatic Triple Negative Breast Cancer**

Year penetration starts	2016	Incidence	31064
Starting penetration rate	7.5%	Percent addressable	100%
Years between penetration start and peak	5	Market growth rate	2%
Peak penetration	40%	Price per patient	\$30,000
Duration of peak penetration in years	3	Treatment price growth	3%
Retention rate in decline years	90%	Royalty rate	15%
Stage of development	Phase I	Probability of commercialization	20%

On November 3, 2006, ZIOPHARM acquired indibulin from Baxter Healthcare Corporation for an upfront cash payment of \$1.25 million, and has agreed to pay future milestones totaling approximately \$7 million plus an undisclosed royalty based on net sales. We assume the royalty payable to Baxter to be 6%. Currently, indibulin is in clinical trials in various solid tumors; however, we have modeled the financials based on the assumption that the Company will pursue metastatic triple negative breast cancer as its approval indication.

We continue to believe indibulin has a very important place in the treatment of breast cancer patients. Indibulin is a novel synthetic anti-mitotic agent that binds to tubuli, destabilizes microtubulin polymerization, and arrests cell growth at the G2/M phase. Microtubulins are well-established targets for anti-cancer drug development, and tubulin-binding drugs such as taxanes and vinca alkaloids are currently widely used in chemotherapies to treat cancer.

Indibulin is not only an interesting drug because it is active against taxane-resistant cells without the neurotoxicity seen with all the other tubulin binding agents, but also because “Norton’s dose density scheduling” to accelerate and optimize chemotherapy that targets the Gompertzian growth model has revealed a novel dose schedule that promises to maximize efficacy and minimize toxicity. Also, as an oral drug, it is potentially of value to the entire world’s population.

ZIOPHARM is pursuing a niche strategy in triple-negative breast cancer (TNBC) as an initial FDA approval pathway for indibulin. TNBC represents only 15% of all breast cancer cases but accounts for as many as 25% of all breast cancer deaths. Most breast cancers are characterized by the presence of three receptors (proteins found inside or on the surface of breast cells) – estrogen, progesterone, and HER2. These receptors are not “expressed” in women with TNBC, and thus, since most treatments available today are aimed at those receptors, triple-negative tumors generally do not respond to the available receptor-targeted treatments. As a result, TNBC is difficult to treat, and the tumors are often more aggressive. On a positive note, this type of breast cancer is typically responsive to chemotherapy, which further solidifies the logic behind ZIOPHARM’s clinical and initial niche FDA registration route.

We assume the following:

Metastatic Triple Negative Breast Cancer:

- The patient population reflects the estimated incidence of triple negative breast cancer in the U.S. (Total breast cancer incidence is estimated at 207,090, and approximately 15% of cases are triple negative).
- 100% of the addressable triple negative patient population is considered eligible for chemotherapy, based upon their general health status.
- The patient population is expected to grow roughly in line with the total population.
- We assume that the first regulatory approval for this indication is received in 2015 and that the drug is used by 7.5% of the addressable patient population in its first year.
- Five years after indibulin’s approval for breast cancer, its sales peak, with a total market penetration of 40%. This takes into account the drug’s good side effect profile, its oral availability, and the ready-made market based on use of other taxanes, notably docetaxel.

- Sales remain stable for three years after peaking and then enter a period of slow decline, due to new competition.
- The average patient's cost of indibulin therapy is \$30,000 per annum (\$5,000 per cycle).
- ZIOPHARM out-licenses all marketing rights to indibulin in exchange for milestone payments and a 15% royalty rate.
- The probability of commercialization is 20%, reflecting indibulin's stage of clinical development and historical drug development success rates.

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BALANCE SHEET

\$ in thousands, except per share data

FY ending December 31

ASSETS	3/31/2011
Current Assets	
Cash & equivalents (1)	124,037
Collaboration revenue receivable	5,000
Other	934
Total Current Assets	\$ 129,971
Property & equipment	\$ 443
Other	448
Total Assets	\$ 130,862
LIABILITIES	
Current Liabilities	
Accounts payable	\$ 1,853
Other	4,691
Total Current Liabilities	\$ 6,544
Long-term debt	\$ -
Other	42,366
Total Long-Term Liabilities	\$ 42,366
Shareholders Equity	
Common Stock, par value	\$ 66
Additional Paid-In Capital	244,708
Accumulated Deficit	(162,822)
Total Shareholders Equity	\$ 81,952
Total liabilities & equity	\$ 130,862

Notes:

(1) Cash & equivalents excludes approximately \$12.0 million raised in May 2011 from the exercise of 2.2 million warrants.

INVESTMENT CONCERNS AND RISKS

For a complete description of risks and uncertainties related to ZIOPHARM's business, see the "Risk Factors" section in ZIOPHARM's SEC filings, which can be accessed directly from the SEC Edgar filings at www.sec.gov. Potential risks include:

Stock risk and market risk: There is a limited trading market for the Company's common stock. There can be no assurance that an active and liquid trading market will develop or, if developed, that it will be sustained, which could limit one's ability to buy or sell the Company's common stock at a desired price. Investors should also consider technical risks common to many small-cap or micro-cap stock investments, such as small float, risk of dilution, dependence upon key personnel, and the strength of competitors that may be larger and better capitalized.

New and rapidly changing field: The pharmaceutical and biotechnological markets are rapidly evolving, and research and development are expected to continue at an accelerated pace with increased frequency. Other companies are also actively engaged in the development of therapies to directly or indirectly treat those disorders being pursued by ZIOPHARM. These companies may have substantially greater research and development capabilities, as well as significantly greater marketing, financial, and human resources abilities than ZIOPHARM.

Products still in development phases: Although the Company intends to continue with clinical development of palifosfamide for advanced sarcoma and other indications, darinaparsin for various indications, and indibulin in solid tumors, the successful development of the Company's product candidates is highly uncertain. Product development costs and timelines can vary significantly for each product candidate and are difficult to accurately predict. In addition, products in development that appear to be promising may not reach commercialization for various reasons, including failure to achieve regulatory approvals, safety concerns, and/or the inability to be manufactured at a reasonable cost.

Funding requirements: It is difficult to predict the Company's future capital requirements. The Company may need additional financing to continue funding the research and development of its products and to expand its business. There is no guarantee that it can secure the desired future capital or, if sufficient capital is secured, that current shareholders will not suffer significant dilution.

Regulatory risk: Various statutes and regulations also govern or influence the manufacturing, safety, labeling, storage, record keeping and marketing of each product. The lengthy process of seeking approval and the subsequent compliance with applicable statutes and regulations require the expenditure of substantial resources. Any failure by us to obtain, or any delay in obtaining, regulatory approvals could materially adversely affect ZIOPHARM's business. There is no guarantee that ZIOPHARM'S products will be approved by the U.S. Food and Drug Administration (FDA) or international regulatory bodies for marketing in the U.S. or abroad.

The Company may need to raise additional capital, which may not be available on terms acceptable to them, if at all: As the Company continues to expand their research and development activities, they may need to raise additional capital, which may not be available on terms acceptable to them, if at all. If the Company cannot raise necessary additional capital on acceptable terms, they may not be able to increase sales, develop or enhance their products and services, take advantage of future opportunities, or respond to competitive pressures or unanticipated requirements, any of which could cause their business to suffer.

Competitive risk: The biotechnology industry is extremely competitive, mainly due to its large market potential. Many companies are developing products for the same therapeutic indications targeted by ZIOPHARM. These companies may have substantially more resources than ZIOPHARM, which could adversely affect the Company's position in the market place.

DISCLOSURES

ANALYST(S) CERTIFICATION: The analyst(s) responsible for covering the securities in this report certify that the views expressed in this research report accurately reflect their personal views about ZIOPHARM Oncology, Inc. (the “Company”) and its securities. The analyst(s) responsible for covering the securities in this report certify that no part of their compensation was, is, or will be directly or indirectly related to the specific recommendation or view contained in this research report.

MEANINGS OF RATINGS: Our rating system is based upon 12 to 36 month price targets. **BUY** describes stocks that we expect to appreciate by more than 20%. **HOLD** describes stocks that we expect to change plus or minus 20%. **SELL** describes stocks that we expect to decline by more than 20%. **SC** describes stocks that Griffin Securities has **Suspended Coverage** of this Company and price target, if any, for this stock, because it does not currently have a sufficient basis for determining a rating or target and/or Griffin Securities is redirecting its research resources. The previous investment rating and price target, if any, are no longer in effect for this stock and should not be relied upon. **NR** describes stocks that are **Not Rated**, indicating that Griffin Securities does not cover or rate this Company.

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PRICE CHART



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6/26/2006 – Initiating coverage: share price: \$5.05; rating: BUY; 12-month price target: \$18.00. **12/07/2006** – Research update: share price \$6.36; rating: BUY; 12-month price target: \$20. **5/03/2007** – Research update: share price \$5.80; rating: BUY; 12-month price target: \$20.00. **3/13/2008** – Research update: share price: \$2.52; rating: BUY; 12-month price target: \$15.00. **7/02/2008** – Research update: share price: \$1.87; rating: BUY; 12-month price target: \$15.00. **5/18/2009** – Research update: share price: \$0.77; rating: BUY; 12-month price target: \$3.00. **6/09/2009** – Research update: share price: \$1.87; rating: BUY; 12-month price target: \$3.00. **3/4/2010** – Research update: share price: \$3.53; rating: BUY; 12-month price target: \$8.00. **1/20/2011** – Research update: share price: \$5.60; rating: BUY; 12-month price target: \$11.00. **4/25/2011** – Research update: share price: \$6.36; rating: BUY; 12-month price target: \$11.00. **5/18/2011** – Research update: share price: \$6.85; rating: BUY; 12-month price target: \$11.00.

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