Zacks Small-Cap Research

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OncoSec Medical (ONCS-OTC)

ONCS: Unique electroporation delivery technology for cancers coupled with robust mid-stage pipeline-----initiating with an Outperform rating.

Current Recommendation	**Outperform**
Prior Recommendation	N/A
Date of Last Change	01/27/2014
Current Price (02/26/14)	$0.75
Twelve- Month Target Price	**$1.50**

OUTLOOK

ONCS is a mid-stage biotech company focused on electroporation delivery technology for cancers. Its lead candidate ImmunoPulse locally delivers a plasmid DNA encoding IL-12. Currently ImmunoPulse is in three Phase II clinical trials for melanoma, Merkel cell carcinoma, and cutaneous T-cell lymphoma respectively. Data have shown that ImmunoPulse is safe and can elicit both local and systemic immune-response.

ImmunoPulse also holds great potential in combination with checkpoint inhibitors for cancers.

We are optimistic with the technology and the prospect of OncoSec, and are positive on the company's shares.

SUMMARY DATA

52-Week High	**$0.77**
52-Week Low	**$0.19**
One-Year Return (%)	**102.75**
Beta	**0.74**
Average Daily Volume (sh)	**3,801,483**
Shares Outstanding (mil)	**183**
Market Capitalization ($mil)	**$140**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**0**
Insider Ownership (%)	**13**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**N/A**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/A**
P/E using 2014 Estimate	**N/A**
P/E using 2015 Estimate	**N/A**
Zacks Rank	**N/A**

Risk Level	**High,**
Type of Stock	**N/A**
Industry	**Med-Biomed/Gene**
Zacks Rank in Industry	**N/A**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Oct)	Q2 (Jan)	Q3 (Apr)	Q4 (Jul)	Year (Jul)
2012					0.00 A
2013	0.00 A	0.00 A	0.00 A	0.00 A	0.00 A
2014	0.00 A	0.00 E	0.00 E	0.00 E	0.00 E
2015					0.00 E

Earnings per Share
(EPS is operating earnings before non recurring items)

	Q1 (Oct)	Q2 (Jan)	Q3 (Apr)	Q4 (Jul)	Year (Jul)
2012					-$0.08 A
2013	-$0.02 A	-$0.02 A	-$0.01 A	-$0.02 A	-$0.07 A
2014	-$0.01 A	-$0.01 E	-$0.01 E	-$0.01 E	-$0.04 E
2015					-$0.04 E

Zacks Projected EPS Growth Rate - Next 5 Years % **N/A**

KEY POINTS

- We are initiating coverage of OncoSec Medical (ONCS) with an Outperform rating. Our 12-month price target is $1.50.

- OncoSec is a mid-stage biotech company focused on designing, developing and commercializing innovative and proprietary medical approaches for the treatment of **cancers.** The company's proprietary platform technology is **electroporation of DNA** encoding for cytokines or other immunomodulatory proteins directly into tumors.

- OncoSec's lead candidate is ImmunoPulse, which locally delivers plasmid DNA encoding interleukin 12 (IL-12) into tumor cells. ImmunoPulse is under **three Phase II** clinical trials targeting melanoma, Merkel cell carcinoma (MCC), and cutaneous T-cell lymphoma (CTLC) respectively.

- Preliminary data from an ongoing **Phase II melanoma** study (29/30 patients enrolled to date) have demonstrated that ImmunoPulse was safe and well tolerated in patients. ImmunoPulse also showed strong efficacy in treated melanoma patients: 38.1% of patients achieved an **objective overall response**; 28.6% of patients had demonstrated a partial response, and 9.5% had achieved a complete response, lasting at least 6 months. An additional 9.5% of patients exhibited clinically beneficial disease stabilization for at least 3 months. These data have confirmed and extended the positive Phase I study, published in the Journal of Clinical Oncology (J Clin Oncol 26:5896-5903).

- Importantly, 61.1% of patients exhibited **systemic** antitumor immune responses, as evidenced by objective regression (≥30% reduction in size) in at least one untreated lesion. This is important because ImmunoPulse is delivered locally into tumors. Its systemic antitumor activity means that ImmunoPulse not only targets tumors in situ, but can also induce responses in non-injected lesions including inaccessible metastatic tumors.

- Based on the positive interim data, OncoSec plans to conduct a **Phase IIb** clinical trial of ImmunoPulse in patients with **metastatic melanoma**. The Phase IIb study will be a randomized, controlled study, providing the company with information for a key inflection point in the development of this program. We estimate pivotal trial could start in 2015, and approval will be in 2017 if Phase III data can confirm safety and efficacy of previous studies.

- The ImmunoPulse Phase II clinical studies for Merkel cell carcinoma (MCC) and cutaneous T-cell lymphoma (CTLC) are ongoing. OncoSec expects to **complete enrollment** in the MCC trial in **1Q14** and report data from the trial in **mid-2014**. The company plans to expand the **Phase II CTCL** study by adding more enrollment sites to enhance enrollment in CTCL in 2014.

- One important program in OncoSec's pipeline is the **combination therapy** of ImmunoPulse with checkpoint inhibitors for the treatment of melanoma and other solid tumors. The combination of ImmunoPulse with PD-1/PDL-1 inhibitors has the potential to convert non-immunogenic tumors into immunogenic ones, therefore killing these tumor cells otherwise not responsive to monotherapy with PD-1/PDL-1checkpoint inhibitors.

- OncoSec has a relatively strong balance sheet. In September 2013, OncoSec closed a registered public offering with net proceeds of $11.1 million. As of October 31, 2013, OncoSec had cash and cash equivalents of $15.2 million. This cash balance could last through into fiscal 2016 according to our model.

- We believe OncoSec's shares are undervalued at current market price. We encourage investors to buy its shares at this time. Risks associated with our price target include clinical and regulatory hurdles for the company's candidates. Cash burn is also a concern.

OVERVIEW

OncoSec Medical Inc. (ONCS.OTC) is an emerging **drug-medical device and therapeutic** company focused on designing, developing and commercializing innovative and proprietary medical approaches for the treatment of **solid tumors** that have unmet medical needs or where currently approved therapies are inadequate based on their efficacy or side-effects.

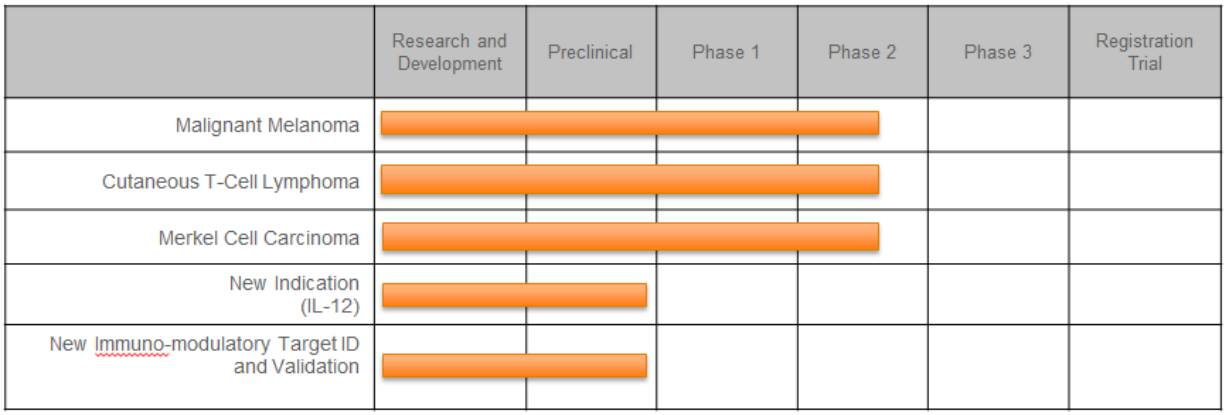
OncoSec is the survivor company after the reverse merger with **Netventory Solutions Inc**. In March 2011, OncoSec acquired from **Inovio Pharmaceuticals, Inc**. certain assets of non-DNA vaccine technology and intellectual property relating to selective **electrochemical tumor ablation**, which is related to the use of drug-medical device combination products for the treatment of various cancers.

The assets OncoSec acquired include intellectual property relating to certain **delivery technologies**, which are referred to as the OncoSec Medical System **(OMS).** OMS is a therapeutic approach which is based on the use of an **electroporation delivery device** in combination with a DNA-based cytokine to treat solid tumors.

OncoSec's lead candidate is **ImmunoPulse,** which is based on the use of electroporation to enhance the local delivery of DNA plasmids encoding interleukin-12 (IL-12). Upon uptake into cells, IL-12 will generate a local, regional and systemic immune response for the treatment of various cancers.

OMS is designed to increase the permeability of cancer cell membranes and, as a result, increases the intracellular delivery of selected therapeutic agents.

OncoSec's current focus is on ImmunoPulse approach for tumor treatment. It has built a robust pipeline based on this unique technology.



OncoSec is headquartered in San Diego, California.

INVESTMENT THESIS

The Unique, Proprietary OncoSec Medical System (OMS)

OncoSec's core technology for cancer treatment is called **the OncoSec Medical System (OMS)**. This breakthrough technology hinges on a proprietary process called **electroporation**, which uses an electrical pulse to create temporary pores in cancer cells. After the electroporation, DNA-encoded cytokines or other immunomodulatory molecules are delivered through these pores, leading to sustained

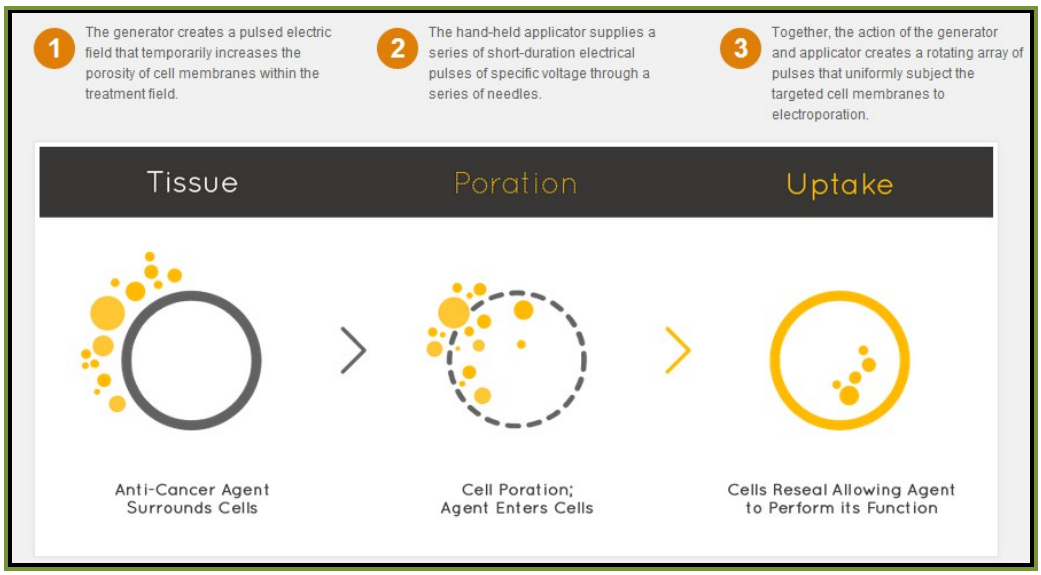
expression of these molecules in the tumor, leading to lower “doses” than what would normally be delivered systemically. The result is a more potentially effective treatment with fewer side effects.

Supported by extensive research and development and a comprehensive patent portfolio, OncoSec is now a world leader in this emerging technology. This technology includes the design and manufacture of medical-grade electrical pulse generators, treatment applicators, and software that are adaptable for different clinical applications. The technology and methods of use are all patented intellectual property.

These proprietary elements, along with the company’s clinical trial experience and expertise in using these technologies, have helped OncoSec to consolidate its position as the leading proponents of this promising treatment for solid tumors.

The OncoSec Medical System **(OMS)** is developed based on the following rational. Many drugs and DNA-based therapeutics must enter the target cell through its membrane in order to perform their intended function. However, the effectiveness of these medicines is limited since gaining entry into target cells through the outer membrane can be a significant challenge. In the 1970s, it was discovered that the brief application of high-intensity, pulsed electric fields to the cell resulted in a temporary and reversible increase in the permeability of the cell membrane, enabling the intracellular delivery of a variety of payloads, most notably, DNA constructs (i.e. plasmids) encoding biologically active molecules such as cytokines.

This transient and reversible **electrical permeabilization** of cell membranes and the resulting increase in intracellular delivery of immune-activating DNA plasmids is the underlying basis of OncoSec’s OMS therapeutic approach. While the extent of membrane permeabilization depends on various electrical, physical, chemical, and biological parameters, research with OMS has demonstrated an increase of cellular uptake in chemical molecules from **1,000- to 8,000**-fold above baseline. The enhanced delivery of these agents may result in the ability to not only improve cytotoxicity and therapeutic value but also to lower the required doses, and thereby providing a potentially safer treatment.



DNA Delivery With Electroporation — ImmunoPulse

The lead candidate based on the electroporation delivery technology is **ImmunoPulse**, which delivers plasmid DNA encoding immunotherapeutic **cytokines (interleukin 12, IL-12)** into tumor cells that stimulate the patient’s immune system to fight cancer.

The greatest obstacles to making conventional immunotherapy and DNA-based immunotherapies a reality has been the limited data supporting safe, efficient, and economical delivery and expression of plasmid-DNA constructs into the target cells. The use of OMS in this approach has been validated from multiple clinical studies assessing DNA-based immunotherapies against cancers. Together with its partners and collaborators, OncoSec plans to be the leader in establishing electroporation-delivered DNA immunotherapies. Based on existing data generated, electroporation could become the method of choice for plasmid-DNA delivery into cells in many clinical applications.

The ImmunoPulse approach utilizes an **optimized electroporation system** to deliver plasmid DNA encoding immunotherapeutic cytokines into tumor cells which in turn promote anti-cancer responses. The cytokine-encoding plasmid is first injected with a syringe/needle into the selected tumor. Using a remote control, the pulse generator is switched on and electrical pulses are generated and delivered through an attached electrical cord into the injected tissue through an electrode-needle array on the applicator. Studies have shown that when DNA injection is followed by electroporation of the target tissue, transfection is significantly greater with resultant gene expression generally enhanced from 100 to 1000-fold. This increase makes many DNA-based candidates potentially feasible without unduly compromising safety or cost.

A **Phase I** clinical trial in **metastatic melanoma** has been completed using ImmunoPulse to deliver plasmid-DNA encoding for the **IL-12** cytokine. The study was designed to assess both the adaptive and innate immunity responses from the targeted delivery of the IL-12 into melanoma tumor cells. The findings demonstrated not only regression of treated melanoma skin lesions, but also regression of distant untreated lesions, suggesting a **systemic immune response** to the localized treatment. Based on the positive Phase I data, OncoSec is conducting Phase II clinical trials of ImmunoPulse IL-12 for various tumors.

Advantages of OMS

Cancer is a disease of uncontrolled cell growth. The primary front line treatment of solid tumors involves surgical resection and/or radiation to eliminate or debulk tumor growth prior to initiating systemic therapy with chemotherapeutic agents. When detected early and still confined to a single location, cancer may be cured by surgery or radiation. However, neither surgery nor radiation can cure cancer that has spread throughout the body. Although chemotherapy can sometimes effectively treat cancer that has spread throughout the body, a number of non-cancerous cells, such as bone marrow cells, are also highly susceptible to chemotherapy. As a result, chemotherapy often has fairly significant side effects. In addition, it is common to see cancer return after apparently successful treatment by each of these means.

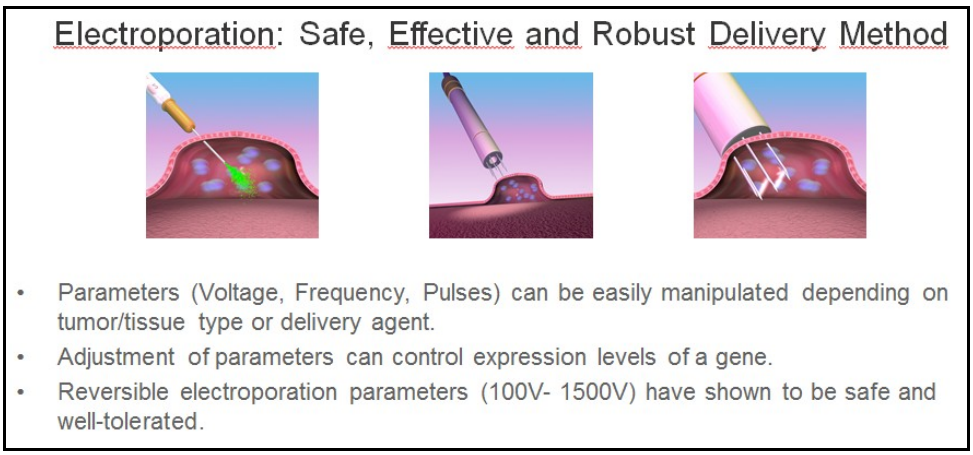
We believe that OncoSec's **ImmunoPulse** could offer a solution for cancers with an improvement in safety and quality of life for patients over conventional systemic treatments such as chemotherapy.

OncoSec's ImmunoPulse is an **immunotherapy**, which may have advantages over surgery, radiation, and chemotherapy. Immunotherapy is a process which uses the patient's own immune system to treat cancer. Many cancers appear to have developed the ability to "hide" from the immune system. A treatment that can augment the immune response against tumor cells by making the cancer more "visible" to the immune system would likely represent a significant improvement in cancer therapy. Immune-enhancing proteins such as interleukin-2 (**IL-2**) and interferon-alpha (**IFN- a**) have shown encouraging results. However, these agents often require frequent doses that may result in severe side effects.

ImmunoPulse approach consists of directly injecting solid tumors with a DNA plasmid, which, upon uptake into cells, directs the production of the encoded immunostimulatory cytokine **(IL-12)** to generate a loco-regional immune response against the tumor, which can potentially induce a systemic immune response. The ease of manufacture, convenience, and ability to repeat administration may offer advantages over current modalities of therapy. In addition, cancer therapies using **non-viral DNA**

delivery may offer an added margin of safety compared with viral-based delivery, as no viral particles or other potentially infectious agents are contained in the formulation.

OncoSec's electroporation technology is a safe, effective and robust tool for delivering payloads into cells. Because of this, the company is able to deliver potentially toxic payloads, like IL-12, locally into the tumor as a gene, and have it expressed in the tumor microenvironment. The beauty of electroporation is its ability to modify and manipulate the parameters and the payloads to target any indication, thus making it a well-defined, safe and effective delivery tool.



Another advantage of ImmunoPulse is that this technology has the potential for broad application. The use of electroporation to deliver immune-modulating DNA agents directly and safely into tumors provides for a robust and flexible technology that can be applied towards the treatment of numerous solid tumor indications either alone or in combination.

Potential Solid Tumor Indications	Potential immune targets
Head and Neck	Pro-inflammatory cytokines
Sarcoma	Immuno-modulatory receptors
Prostate	Cell trafficking molecules
Ovarian	
Breast	

ImmunoPulse for Melanoma

Cytokine-based immunotherapy has been intensively investigated for the treatment of cancers. Among these cytokines, **interleukin-12 (IL-12)** is considered to be one of the most potent in triggering anti-tumor immune responses. IL-12 plays an important role in bridging **innate** and **adaptive** immune responses, inducing differentiation of naive CD4 T cells into type 1 T helper cells, driving the production of interferon-gamma, and promoting cytotoxic T cell (CTL) and NK-mediated expansion and anti-tumor responses.

The potent antitumor activity of IL-12 has been demonstrated in many preclinical murine tumor models, including subcutaneous tumors, experimental metastasis, and spontaneous tumors. Studies have shown that IL-12 exercises its antitumor activity through the generation of tumor-specific cytotoxic T lymphocytes and the enhancement of the cytotoxicity of natural killer (NK) cells and T cells. IL-12 also exerts potent antiangiogenic activities in tumor cells. Clinical responses to IL-12 treatment have been reported in many types of tumors, such as cutaneous T cell lymphoma, non-Hodgkin's lymphoma,

melanoma, renal cell carcinoma, and gastrointestinal carcinoma. However, the systemic administration of IL-12 has been limited because of its severely toxic effects.

OncoSec's **ImmunoPulse** locally delivers plasmid-DNA encoding **IL-12** into tumor cells.

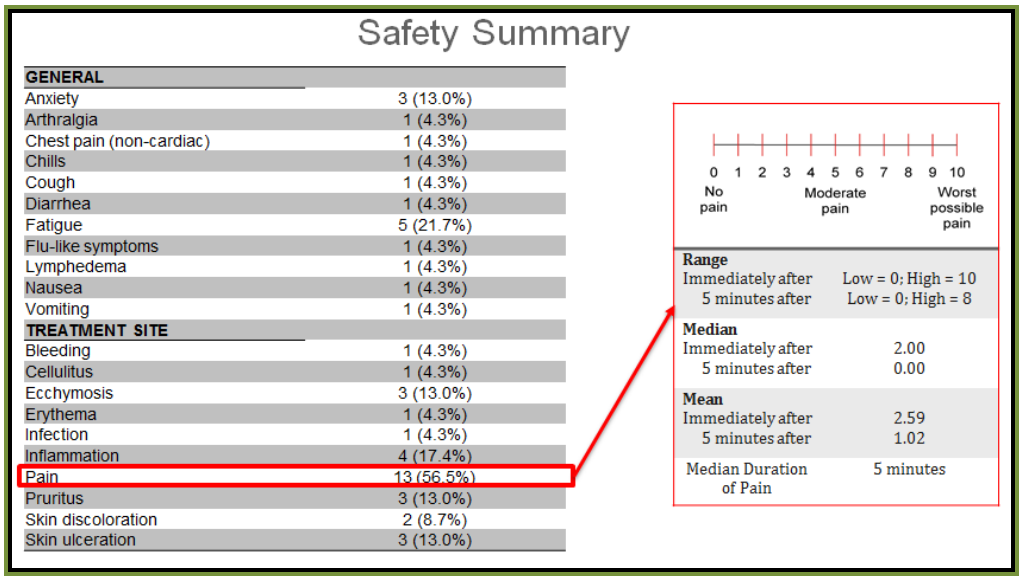
A **Phase I** clinical trial of ImmunoPulse in **metastatic melanoma** has been completed. The study was designed to assess the safety of ImmunoPulse and both the adaptive and innate immunity responses from the targeted delivery of the IL-12 into melanoma tumor cells in **24 patients** with metastatic melanoma. The Phase I study established safety and tolerability and suggested a systemic objective response in more than half of the subjects. 15% of patients showed 100% clearance of distant, non-treated tumors. Based on historical data, less than 0.25% of patients would have been expected to see regression in their untreated tumors.

One of the striking findings from the Phase I trial is that ImmunoPulse demonstrated not only regression of treated melanoma skin lesions, but also regression of distant untreated lesions, suggesting a **systemic immune response** to the localized treatment.

Based on the positive Phase I data, OncoSec initiated a **Phase II** clinical trial in patients with **melanoma** in Feb 2012. The Phase II melanoma trial (**OMS-I100**) is a single dose trial treating approximately 25 patients. The **primary endpoint** is objective response rate (local and distant) at six months. Secondary trial endpoints include time to objective response (complete and partial responses), duration of distant response and overall survival.

In December 2013, OncoSec announced positive **interim data** from the ongoing Phase II trial of OMS-I100.

ImmunoPulse was safe and well tolerated. Data from the multicenter, open-label, single-arm study confirmed the safety of ImmunoPulse. In Phase I and Phase II studies, a total of 47 melanoma patients have been treated without a single drug-related, serious adverse event. The most often occurred side effect was injection site pain (56.5%) which was only mild and transient.

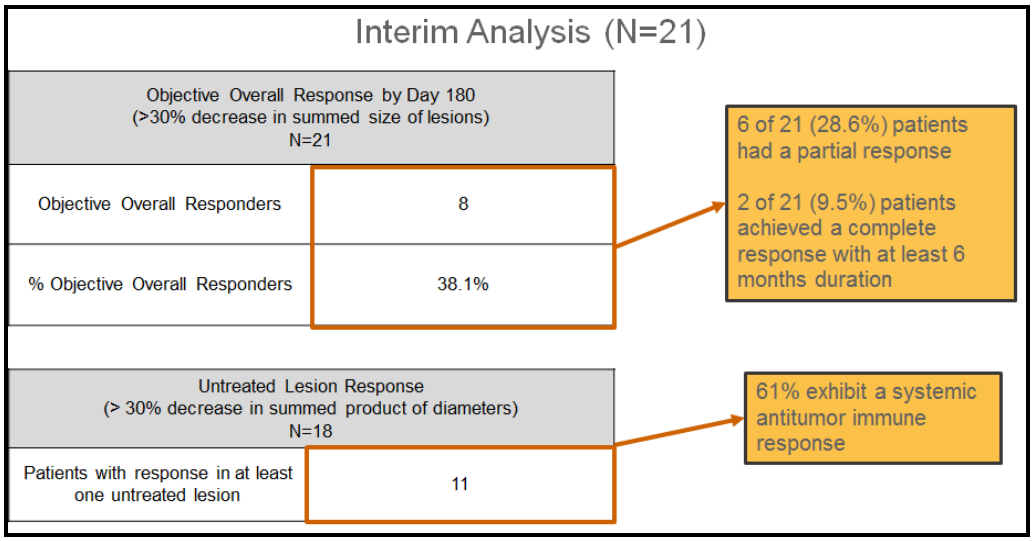


Patients treated in OMS-I100 also demonstrated positive response rates based on modified RECIST criteria, a standardized measure of solid-tumor response to treatment. Interim efficacy analysis of 21 evaluable patients on Day 180 indicated that 38.1% (8/21) achieved an **objective overall response**, defined as ≥30% reduction in summed size of lesions. At the time of this interim analysis, six patients (28.6%) had demonstrated a partial response, and two patients (9.5%) had achieved a complete

response, lasting at least 6 months. An additional 9.5% (2/21) of patients exhibited clinically beneficial disease stabilization for at least 3 months.

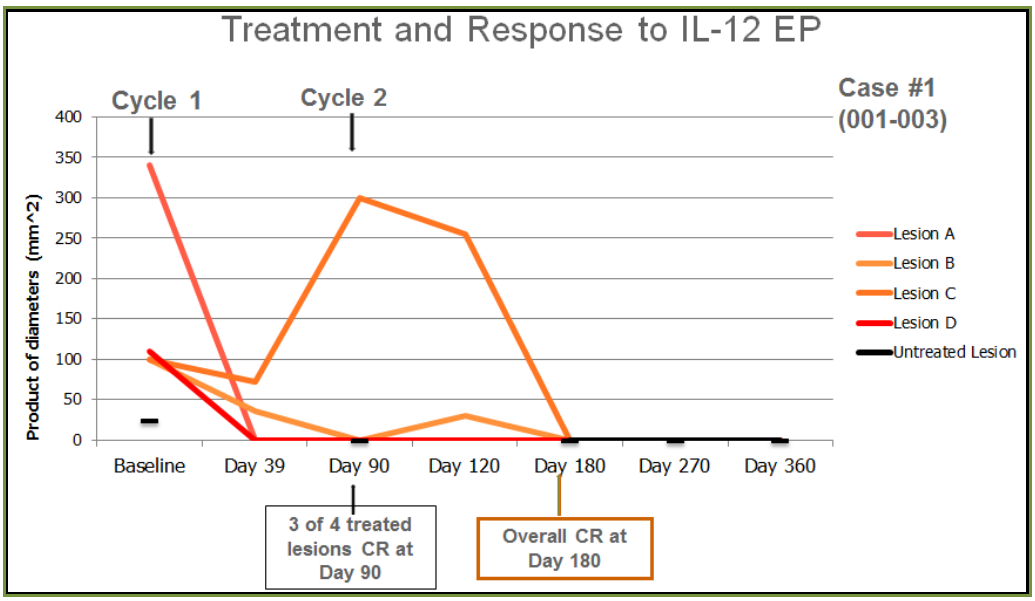
These data strengthen and expand upon previously reported Phase I results, which indicated a complete response in 16% of patients (3/19) and disease stabilization in 38% (7/19). These data were published in Journal of Clinical Oncology in 2008.

Importantly, 61.1% of patients (11/18) with evaluable lesions exhibited **systemic antitumor immune responses**, as evidenced by objective regression (≥30% reduction in size) in at least one untreated lesion.



The following chart describes **an example** of one complete responder in the Phase II melanoma trial. At baseline he had 5 lesions: 4 treated and 1 untreated. The untreated lesion was visible by PET-CT and remained untreated for the duration of the study.

Following the first cycle, 3 of the 4 treated lesions completely responded, including the untreated lesion. Following the second cycle, all treated lesions responded and by Day 180 this patient was disease free.



OncoSec has completed enrollment of 25 patients in the Phase II trial and expects to reach its expanded enrollment target of **30 patients** in the near future and report additional data from the trial in **mid-2014**. The company is also planning to evaluate additional dose-intensified treatment schedules in the current trial and report interim and final analysis **later this year**.

We are encouraged by the safety and efficacy data of ImmunoPulse in the Phase II study in melanoma patients. The positive Phase II data further validates results from previous Phase I study. We are especially impressed with the response rate of untreated tumors, which suggests an induction of **systemic antitumor response**, without systemic toxicity.

Systemic response is significant for two main reasons. First, it suggests that unlike most locally administered melanoma treatments, ImmunoPulse may induce antitumor response throughout the entire body, which would have clear benefits in the treatment of **metastatic disease**. Secondly, the favorable safety profile of ImmunoPulse indicates its potential to deliver systemic benefit, without the toxicities associated with many other systemic treatments.

Phase IIb Study of ImmunoPulse for Metastatic Melanoma To be Initiated Soon

While OncoSec's current Phase II study in metastatic melanoma is coming to a conclusion, the company is preparing for its next phase of development and is setting up for the initiation of a **Phase IIb** metastatic melanoma study. The Phase IIb study will be a randomized, controlled study, providing the company with information for a key inflection point in the development of this program.

If the Phase IIb study can confirm safety and efficacy of ImmunoPulse, **pivotal trial** could start in 2015. And we estimate approval of ImmunoPulse for the treatment of melanoma may be obtained as early as **in late 2017** if the pivotal trial data prove to be positive.

Great Potential of ImmunoPulse in Combination with Checkpoint Inhibitors for Melanoma

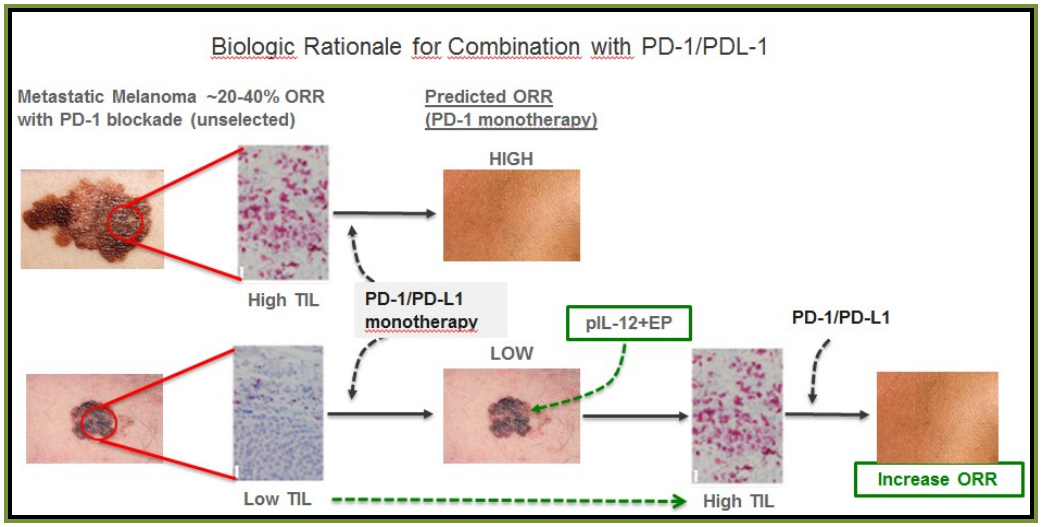
OncoSec is conducting a research study with Old Dominion University to evaluate the effects of ImmunoPulse **in combination with** anti-CTLA-4, Anti-PD-1 and Anti-PDL-1 in a **melanoma mouse model.**

Studies have demonstrated that tumors (specifically melanoma) can be divided into a high and low TIL (tumor infiltrating lymphocyte) phenotype. Tumors with high TIL are referred to as **immunogenic**, while tumors with low TIL are referred to **non-immunogenic**. Ongoing clinical trials of PD1/PDL1 inhibitors suggest that response correlates with high TIL phenotype. Tumors with low TIL have low response rate to PD-1/PDL-1 inhibitors.

Recent melanoma studies have reported response rates in the range of 20-40% using anti-PD-1 or anti-PDL-1, and the argument is that the majority of the responders are the high-TIL population. If this is the case, then the question becomes how to make those **non-immunogenic tumors** into immunogenic tumors so that they can respond to PD-1/PDL-1 or similarly effective T cell checkpoint agents.

The therapeutic concept is that ImmunoPulse with IL-12 will convert low TIL tumors into high TIL ones, thus allowing an anti-PD1/PDL1 therapy to work in patients, who would otherwise be PD-1 unresponsive.

The potential ability of ImmunoPulse to convert the non- or weakly immune-responsive cancer into strongly immune-responsive cancer may represent a paradigm shift in cancer therapy. This area is an enormous unmet medical need and represents a huge market for OncoSec. It is estimated that about 50% to 80% cancer patients will not have TIL infiltrate at baseline or even after PD-1/PDL-1 treatment. This is where OncoSec's ImmunoPulse can get in and convert those non-immunogenic tumors into immunogenic tumors. In addition to melanoma, ImmunoPulse can virtually target any solid tumors, which represents a multi-billion dollar market for OncoSec.



There is a huge **unmet medical need** for OncoSec's ImmunoPulse in combination with checkpoint inhibitors. If we look at the melanoma indication alone, this is a disease that has the highest response rates with PD-1 inhibitor monotherapy. But still there are about 60% to 80% of patients who will not respond to PD-1 Checkpoint Inhibitors.

In **other solid tumors**, the percentage of PD-1 non-responders/non-immunogenic tumors is likely to be even greater. Thus, there is a tremendous unmet medical need, across many solid tumors.

We estimate the market for the combination therapy will be a multi-billion business.

In order to accelerate the development of the combination study, OncoSec recently hired industry veteran **Dr. Robert H. Pierce** as the company's Chief Medical Officer (CMO). Dr. Pierce was a key member of the global development team behind Merck's anti-PD-1 program (MK-3475) before joining OncoSec. We believe the addition of Dr. Pierce will accelerate the combination development of ImmunoPulse with PD-1/PDL-1 inhibitors.

Market Opportunity for ImmunoPulse

The initial indication for ImmunoPulse therapy will be for the treatment of **melanoma**. Melanoma is one of the most common skin cancers, with around 80,000 new diagnoses each year in the US, and leads to around 10,000 deaths each year, accounting for 75% of all deaths related to skin cancer. While survival rates have increased markedly in recent years, primarily due to early diagnosis, incidence rates have also tripled in the last 30 years from 8 cases per 100,000 persons to 24 per 100,000 according to National Cancer Institute. The number of melanoma patients suitable for ImmunoPulse therapy outside the U.S. is approximately twice that of the U.S.

When diagnosed early almost all localized melanoma can be safely treated by surgical removal of the tumor. However in about 20% of the cases the tumor is metastatic and inoperable, and can spread to the brain, liver, bones, abdomen or lymph nodes, with far lower chances of survival. Patients with metastatic melanoma have a poor prognosis with a 5 year survival rate of 5%. Two commonly used therapeutic agents for metastatic melanoma are **dacarbazine** and **interleukin-2**. **Dacarbazine** has an objective response rate of approximately 12% with 2-3% complete response rate that are often transient. **Interleukin-2** has an objective response rate of approximately 16% with 4-6% durable complete response rate.

The US FDA recently approved a few agents for the treatment of metastatic melanoma.

In March 2011, the FDA approved **YERVOY (ipilimumab)** from **Bristol-Myers Squibb** for the treatment of unresectable or metastatic melanoma. Ipilimumab is a human cytotoxic T-lymphocyte antigen 4 (CTLA-4) antibody. CTLA-4 is expressed on activated T-cells and is a **negative regulator** of T-cell activation. Ipilimumab binds to CTLA-4 and blocks the interaction of CTLA-4 with its ligands, CD80/CD86. By binding CTLA4, ipilimumab enhances T-cell activation.

In a Phase III trial of 676 patients, overall survival was longer with ipilimumab alone compared with tumor vaccine gp100. Patients treated with ipilimumab alone had a median OS of 10 months. Patients treated with gp100 had a median overall survival of 6 months. Patients who received ipilimumab plus gp100 had a median OS of 10 months. Patients treated with ipilimumab alone also had the **best overall response rate** (investigator assessed), of 10.9 percent. Patients treated with the combination of ipilimumab plus vaccine arm had an overall response rate of 5.7 percent. The patients treated with vaccine gp100 alone had an overall response rate of 1.5 percent.

Overall Survival Data for Yervoy

	YERVOY n=137	YERVOY+gp100 n=403	gp100 n=136
Hazard Ratio (vs. gp100)	0.66	0.68	
(95% CI)	(0.51, 0.87)	(0.55, 0.85)	
p-value	p=0.0026	p=0.0004	
Hazard Ratio (vs. YERVOY)		1.04	
(95% CI)		(0.83, 1.30)	
Median (months)	10	10	6
(95% CI)	(8.0, 13.8)	(8.5, 11.5)	(5.5, 8.7)

In August 17, 2011, the FDA approved **vemurafenib** tablets (**ZELBORAF**, made by Hoffmann-La Roche Inc.) for the treatment of patients with unresectable or metastatic melanoma with the $BRAF^{V600E}$ mutation. ZELBORAF is a kinase inhibitor indicated for the treatment of patients with unresectable or metastatic melanoma with $BRAF^{V600E}$ mutation.

The confirmed, investigator-assessed best overall response rate was 48.4% for ZELBORAF. There were 2 complete responses (0.9%) and 104 partial responses (47.4%).

On May 29, 2013, the FDA approved **dabrafenib (Tafinlar™** capsule) and **trametinib (Mekinist** tablet), from GlaxoSmithKline, for the treatment of patients with unresectable or metastatic melanoma. Dabrafenib is approved for BRAFV600E mutation, while trametinib is approved for $BRAF^{V600E}$ or ^{V600K} mutation.

The investigator-assessed objective response rates were 52 percent for patients treated with dabrafenib, which included a **3 percent complete response rate**. The objective response rates were 22 percent for patients treated with trametinib. None of the 40 patients achieved a confirmed complete response.

The very small number of durable complete response rate makes it unlikely that many patients with metastatic melanoma will be cured utilizing any of these approaches. Also, all these drugs are associated with significant side effects and long-term use may lead to drug resistance by tumor cells.

OncoSec's **ImmunoPulse therapy** is a totally different treatment approach for melanoma. ImmunoPulse clinical-stage approach consists of directly injecting solid tumors with a DNA plasmid which, upon uptake into cells, directs the production of the encoded **IL-12** to generate a loco-regional immune response against the tumor. Both Phase I and Phase II data demonstrated not only regression of treated melanoma skin lesions, but also regression of distant untreated lesions, suggesting a **systemic immune response** to the localized treatment.

Melanoma is a huge market. Sales of **YERVOY** reached $706 million in 2012, first full year after launch. In 2013, BMS recorded $960 million in YERVOY sales. Sales of YERVOY are projected to reach $ 2 billion by 2018.

Considering the huge market for melanoma, we think **peak sales** of ImmunoPulse, alone and in combination, could reach $500 million for the indication of melanoma alone. In addition to melanoma, OncoSec also plans to develop ImmunoPulse therapy for other tumors. If ImmunoPulse therapy proves to be effective to treat additional indications, the market opportunity will be significantly larger. We see a blockbuster potential for ImmunoPulse if additional indications are approved.

ImmunoPulse for Merkel Cell Carcinoma Trial (OMS-I110)

Merkel cell carcinoma (MCC) is a rare but lethal **skin cancer** affecting about 1,500 people each year with 33% mortality rate in the US. The majority of Merkel cell carcinomas appear to be caused in part by a virus, Merkel cell polyomavirus. If this cancer metastasizes to the lymph nodes, the five-year survival rate is about 50 percent. A patient with a small tumor (less than 2 cm) that has not metastasized to the lymph nodes may have a five-year survival rate of more than 80 percent. The current treatment options for these patients are surgery, radiation and chemotherapy; however, up to half of patients suffer a recurrence. Current chemotherapy treatments have demonstrated short-lived responses with no clear impact on overall survival. Rapid advances in the biology of this disease provide a strong rationale for immunotherapy of this virus-associated cancer.

OncoSec initiated a **Phase II** trial of ImmunoPulse for Merkel cell carcinoma **(OMS-I110)** in **Feb 2012**. The trial “A Phase II study of intratumoral injection of interleukin-12 plasmid and in vivo electroporation in patients with Merkel cell carcinoma” is a single dose, open label trial in **15 patients**. The study’s endpoints are IL-12 gene expression in tumor tissue at three to four weeks post-treatment and secondary endpoints will evaluate objective response rates (both local and distant) at six months post-treatment, time to relapse or progression and overall survival. This study will evaluate the safety and tolerability of DNA IL-12 as a treatment for Merkel cell carcinoma and aims to further validate the findings from the Phase I dose escalation trial carried out in 24 metastatic melanoma patients.

In partnership with leading clinical centers, OncoSec is continuing enrollment in the Phase II study in Merkel cell carcinoma. The company expects to **complete enrollment** in this trial in **1Q14** and report additional data from the trial in **mid-2014**.

Phase II Cutaneous T-Cell Lymphoma (OMS-I120)

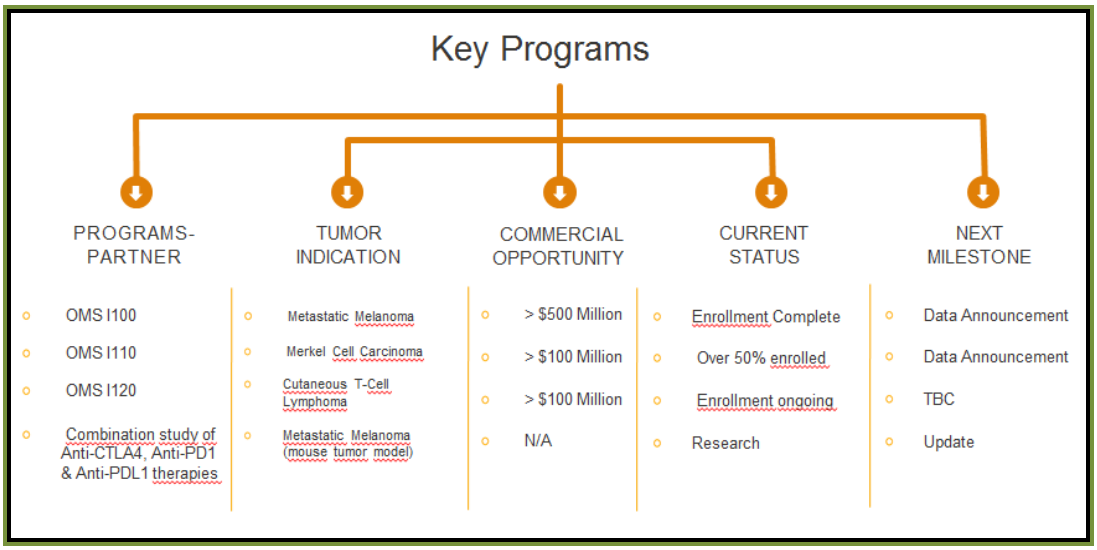
Cutaneous T-cell lymphoma **(CTCL)** is a heterogeneous class of **non-Hodgkin's lymphoma**, which is a type of cancer of the immune system. The incidence of CTCL in the United States is approximately 1,500 new cases per year.

Current therapies for CTCL delivering either locally or systemically all result in systemic toxicities.

Cytokine therapies have shown some therapeutic benefits, however, the requirement for high dose systemic concentrations results in unwanted toxicities and eventual resistance to the therapy. In contrast, OncoSec’s ImmunoPulse treatment uses locally delivered low dose plasmid-DNA coding for IL-12, which may potentially result in a systemic response against distant untreated tumors with low toxicities.

Based on the positive Phase I clinical trial in 24 melanoma patients, OncoSec initiated a **Phase II trial** in CTCL patients in **July 2012**. The clinical trial “Phase II trial of intratumoral IL-12 plasmid electroporation in cutaneous lymphoma” is an open label, multi-center study and is expected to enroll **27 patients**. The trial’s primary endpoint is to assess the objective response rate (both local and distant) at six months post-treatment, with safety and progression-free survival as secondary endpoint measures.

OncoSec plans to expand the Phase II CTCL study by adding more enrollment sites to enhance enrollment and leverage additional expertise in CTCL.



In addition to the above clinical programs, OncoSec also plans to initiate a new **Phase I study** in new solid tumor indication **in 2014**.

Balance Sheet Boosted by Recent Financing

In September 2013, OncoSec closed a registered public offering of 47,792,000 shares of its common stock at $0.25 per share and warrants to purchase up to 23,896,000 shares of common stock at an exercise price of $0.35 per share for four years.

The gross proceeds of the offering were approximately $12 million. Net proceeds, after deducting the placement agent's fee and other estimated offering expenses payable by OncoSec, was approximately $11.1 million.

As of October 31, 2013, OncoSec had cash and cash equivalents of $15.2 million. This cash balance could last through into fiscal 2016 according to our model.

Experienced Management and Directors

Avtar Dhillon, M.D., Chairman and Director

Dr. Dhillon has served as OncoSec's Chairman since March 2011. Previously, Dr Dhillon was the President and Chief Executive Officer of Inovio Pharmaceuticals, Inc. from October 2001 to June 2009, as President and Chairman of Inovio from June 2009 until October 2009, as Executive Chairman until August 2011, and as Chairman from September 2011. During his tenure at Inovio, Dr. Dhillon led the successfully turnaround of the company through a restructuring, acquisition of technology from several European and North American companies, and a merger with VGX Pharmaceuticals to develop a vertically integrated DNA vaccine development company with one of the strongest development pipelines in the industry. Dr. Dhillon led multiple successful financings for Inovio and concluded several licensing deals that included global giants, Merck and Wyeth. Prior to joining Inovio, Dr. Dhillon was vice president of MDS Capital Corp. (now Lumira Capital Corp.), one of North America's leading healthcare venture capital organizations. In July 1989, Dr. Dhillon started a medical clinic and subsequently practiced family medicine for over 12 years. Dr. Dhillon has been instrumental in successfully turning around struggling companies and influential as an active member in the biotech community. From March 1997 to July 1998, Dr. Dhillon was a consultant to Cardiome Pharma Corp, where he led a turnaround based on three

pivotal financings, establishing a clinical development strategy, and procuring a new management team. In his role as a founder and board member of companies, Dr. Dhillon has been involved in several early stage healthcare focused companies listed on the USA or Canadian stock exchanges, which have successfully matured through advances in their development pipeline and subsequent M&A transactions. Most recently, he was a founding board member (May 2003) of Protox Therapeutics, Inc. (TSX-V: SHS) (now Sophiris Bio Inc.), a publicly traded specialty pharmaceutical company. Dr. Dhillon maintained his board position until the execution of a financing of up to $35 million with Warburg Pincus in November 2010. Dr. Dhillon currently sits on the Board of Directors of BC Advantage Funds, a Venture Capital Corporation in British Columbia, and since March 2012 has been the Chairman of Stevia First Corp. (OTCQB: STVF), an agricultural biotechnology company engaged in the cultivation and harvest of stevia leaf and the development of stevia products. Since May 2011, Dr. Dhillon has also served as a Director and was appointed Chairman in April 2013 of Arch Therapeutics, Inc. (OTCBB: ARTH), a medical device company offering an innovative therapeutic approach to stasis and barrier applications. Dr. Dhillon plays a key role on OncoSec's Board of Directors because of his extensive experience with pharmaceutical and biotech companies, including based on his tenure as President and CEO of Inovio where he was responsible for developing and executing on the clinical programs that provide the extensive clinical database supporting the Company's current clinical development plan and partnering efforts for treating solid tumors.

Punit Dhillon, Co-Founder, President & CEO

On March 10, 2011, Mr. Punit Dhillon was appointed Chief Executive Officer. Mr. Dhillon was formerly Vice President of Finance and Operations at Inovio from September 2003 until March 2011. In his corporate finance role, Mr. Dhillon was pivotal to the company raising over $125 million through multiple financings and several licensing deals including early stage deals with Merck and Wyeth. Mr. Dhillon was responsible for implementation of Inovio's corporate strategy, including achievement of annual budgets and milestones. He was also instrumental to the successful in-licensing of key intellectual property and a number of corporate transactions, including the acquisition and consolidation of Inovio AS, a Norwegian DNA delivery company, and the merger with VGX Pharmaceuticals, which solidified Inovio's position in the DNA vaccine industry. Mr. Dhillon played an effective role as head of operations for Inovio. He completed the integration of the VGX with Inovio, including achieving cost-cutting of over 30% through the synergy assessment of both companies, consolidating four operating locations into two bi-coastal offices, and managing the existing stockholders from both companies. Mr. Dhillon has also previously been a consultant and board member for several TSX Venture Exchange listed early stage life science companies, which matured through advances in their development pipelines and subsequent M&A transactions. Prior to joining Inovio, Mr. Dhillon worked for a corporate finance law firm as a law clerk. From September 1999 to July 2002, he worked with MDS Capital Corp. (now Lumira Capital Corp.) as an analyst. As a serial entrepreneur, Mr. Dhillon places great value on helping future leaders overcome challenges through mentorship and education. He co-founded the Young Entrepreneur Leadership Launchpad (YELL), a credited program integrated in high schools that helps students and future entrepreneurs learn the skills to turn ideas into successful business ventures. Mr. Dhillon is an active member in his community focused on promoting an active lifestyle and grass roots community involvement, including scholarships to support students pursuing post-secondary education. In 2013, he was recognized as the *"Top 100"* CEOs by PharmaVoice and *"Most Admired CEO"* by the San Diego Business Journal. Mr. Dhillon has a Bachelor of Arts with honors in Political Science and a minor in Business Administration from Simon Fraser University.

Dr. Robert H. Pierce, Chief Medical Officer.

Dr. Pierce joined OncoSec as chief medical officer in December 2013.

A graduate of Yale College and the Brown University School of Medicine, Dr. Pierce is well regarded for his career-long research into mechanisms of immune tolerance as well as recent drug development experience, most notably being a key member of the global development team behind Merck's FDA-designated "breakthrough" anti-PD-1 program (MK-3475). Dr. Robert H. Pierce joins OncoSec Medical

from Merck Research Labs – Palo Alto (formerly DNAX Research Institute/Schering-Plough Biopharma) where he spent almost seven years leading a 20–person team, dedicated to developing disease-oriented and tissue-based translational medicine platforms. As Executive Director, Dr. Pierce was responsible for contributions to multiple successful IND applications, including critical biomarker development programs such as the anti-PD-L1 immunohistochemistry assay supporting Merck's MK-3475 trials. In addition, Dr. Pierce was instrumental in designing two Phase II anti-PD-1 (MK-3475) oncology studies. Prior to focusing on immunomodulatory receptor (IMR) programs, Dr. Pierce had served as a discovery project team leader for two novel drug candidates.

From 2001 to 2007, before leaving academics to join industry, Dr. Pierce held several leadership positions at the University of Rochester School of Medicine, including Director of the Autopsy Service at Strong Memorial Hospital. From practicing as a staff pathologist to developing the graduate curriculum in pathomechamism of disease, to acting as the principal investigator of a RO1-funded research lab, Dr. Pierce played an important role in the university's clinical and academic research programs. He continues to act as an adjunct professor at the university. Dr. Pierce is the co-author of over fifty peer-reviewed journal articles and book chapters, and has been a reviewer for numerous scientific journals as well as National Institute of Health grants.

Dr. Pierce received his post-doctoral training at the University of Washington, Seattle, WA, his graduate education and training at Brown University School of Medicine in Providence, RI, and received his undergraduate education at Yale University in New Haven, CT. As a Fulbright Award recipient, Dr. Pierce studied Philosophy at the Albert-Ludwigs-University in Freiburg, Germany.

Veronica Vallejo, Chief Financial Officer

Ms. Vallejo has been a corporate officer of OncoSec since February 2011, having previously served as the company's Controller, Secretary and Treasurer prior to being appointed as Chief Financial Officer in February 2013. Prior to working for OncoSec, Ms. Vallejo worked in public accounting since 1997, most recently working as a Senior Manager with Mayer Hoffman McCann P.C., from January 2001 to December 2010.

Ms. Vallejo holds a B.S. in Business Administration with an emphasis in accounting from San Diego State University. She is a certified public accountant and a member of the American Institute of Certified Public Accountants.

James M. DeMesa, M.D., Director

Dr. DeMesa has been a practicing physician and has served as a senior executive with several international pharmaceutical and biotech companies in the areas of corporate management, regulatory affairs, and pre-clinical and clinical pharmaceutical and medical device product development. In addition to OncoSec, Dr. DeMesa is currently on the Board of Directors of Induce Biologics and Stem Cell Therapeutics. In August 2008, Dr. DeMesa retired from his role as President, Chief Executive Officer and a director of Migenix Inc., a public biotechnology company focused on infectious and neurodegenerative diseases. From 1997 to 2001, he was President, Chief Executive Officer and a director of GenSci Regeneration Sciences Inc., a public biotech company involved in regenerative medicine (now part of Integra LifeSciences). From 1992 to 1997, he was Vice President, Medical and Regulatory Affairs at Biodynamics International, Inc. (now part of Regeneration Technologies), and from 1989 to 1992 was Vice President, Medical and Regulatory Affairs of Bentley Pharmaceuticals (now part of Teva Pharmaceuticals). Dr. DeMesa is a co-founder of CommGeniX, a medical communications company, and MedXcel, a medical education company. Dr. DeMesa attended the University of South Florida where he received his B.A. (Chemistry), M.D. and M.B.A. degrees and did his medical residency at the University of North Carolina. He is the author of two books and speaks regularly to companies and organizations throughout North America. Dr. DeMesa provides the Board with extensive experience with pharmaceutical and biotechnology companies.

Anthony Maida, III, Ph.D, MA, MBA, Director

On June 21, 2011, Dr. Maida joined OncoSec's Board of Directors. Dr. Maida has served as a director on the Board of Directors of Spectrum Pharmaceuticals, Inc. since December 2003 and currently serves as the Chair of its Audit Committee and a member of its Compensation Committee, Placement Committee, Nomination and Corporate Governance Committee and Product Acquisition Committee. He is currently Chief Operating Officer at Northwest Biotherapeutics, Inc., a company focused on the development of therapeutic DC cell-based vaccines to treat patients with cancer. Dr. Maida has been the acting Chairman of Dendri Therapeutics, Inc., a startup company focused on the clinical development of therapeutic vaccines for patients with cancer, since 2003 and as Principal of Anthony Maida Consulting International since 1999, providing consulting services to large and small biopharmaceutical firms in the clinical development of oncology products and product acquisitions and to venture capital firms evaluating life science investment opportunities. Recently Dr. Maida was Vice President of Clinical Research and General Manager, Oncology, world-wide for PharmaNet, Inc. He served as the President and Chief Executive Officer of Replicon NeuroTherapeutics, Inc., a biopharmaceutical company focused on the therapy of patients with tumors of the central nervous system, where he successfully raised financing from both venture capital and strategic investors and was responsible for all financial and operational aspects of the company, from June 2001 to July 2003. From 1999 to 2001, he held positions as Interim Chief Executive Officer for Trellis Bioscience, Inc., a privately held biotechnology company that addresses high clinical stage failure rates in pharmaceutical development, and President of CancerVax Corporation, a biotechnology company dedicated to the treatment of cancer. From 1992 until 1999, Dr. Maida served as President and CEO of Jenner Biotherapies, Inc., a biopharmaceutical company. From 1980 to 1992, he held senior management positions with various companies including Vice President Finance and Chief Financial Officer of Data Plan, Inc., a wholly owned subsidiary of Lockheed Corporation. Dr. Maida serves or has served as a consultant and technical analyst for several investment firms, including CMX Capital, LLC, Sagamore Bioventures, Roaring Fork Capital, North Sound Capital, The Bonnie J. Addario Lung Cancer Foundation and Pediatric BioScience, Inc. Additionally, he has been retained by Abraxis BioScience, Inc., Northwest Biotherapeutics, Inc., Takeda Chemical Industries, Ltd. and Toucan Capital to conduct corporate and technical due diligence on investment opportunities. Dr. Maida formerly served as a member of the board of directors of Sirion Therapeutics, Inc., a privately held ophthalmic- focused company, and GlycoMetrix, Inc., a startup company focused on the development of assays to identify carbohydrates that can indicate cancer. He is a speaker at industry conferences and is a member of the American Society of Clinical Oncology, the American Association for Cancer Research, the Society of Neuro-Oncology and the International Society for Biological Therapy of Cancer.

Dr. Maida received a B.A. in History from Santa Clara University in 1975, a B.A. in Biology from San Jose State University in 1977, an M.B.A. from Santa Clara University in 1978, an M.A. in Toxicology from San Jose State University in 1986 and a Ph.D. in Immunology from the University of California in 2010.

VALUATION AND RECOMMENDATION

We are initiating coverage of OncoSec Medical (ONCS) with an Outperform rating. Our 12-month price target is $1.50.

OncoSec is an emerging biotech company focused on developing and commercializing innovative approaches for the treatment of cancers. OncoSec's key platform technology is its proprietary **electroporation delivery system** to locally deliver DNA or chemotherapeutics into tumor cells. But what makes the technology unique is that this locally delivered DNA has demonstrated systemic response for the treatment of melanoma, meaning that the technology can be used to treat **metastasis** of cancers.

OncoSec's lead candidate **ImmunoPulse** is a delivery device encoding for IL-12. ImmunoPulse is currently in three Phase II clinical trials for melanoma, Merkel cell carcinoma and cutaneous T-cell

lymphoma respectively. OncoSec already reported positive data from the Phase II melanoma trial, and plans to move to Phase IIb trial for melanoma soon. We estimate pivotal trial for melanoma could start in calendar 2015, and approval of this indication could be obtained as early as in 2017.

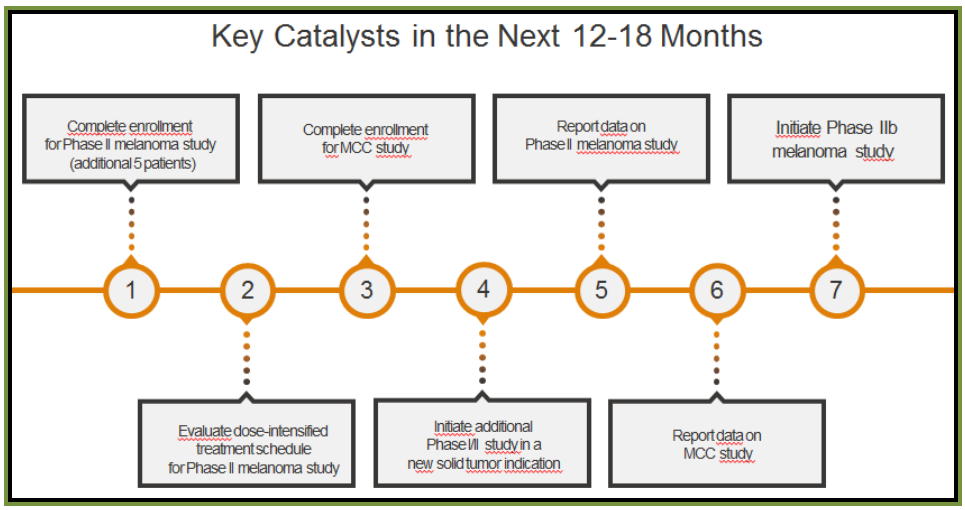
One important application of ImmunoPulse is that it can be **combined** with **checkpoint inhibitors** such as PD-1/PDL-1 for the treatment of melanoma and other solid tumors. In this case, the combination therapy can convert non-immunogenic cancers into immunogenic cancers, which can be killed by the combination therapy.

The market for ImmunoPulse is huge even for the melanoma indication alone. If we consider other indications for solid tumors such as Merkel cell carcinoma and cutaneous T-cell lymphoma, the market is much bigger.

Based on OncoSec's fundamentals, we think its shares are undervalued at current market price. Currently, OncoSec shares are trading at about $0.70 per share, which values the company at $130 million in market capitalization. This certainly is a huge discount compared to its peers. We understand that valuing a development stage biotech company is always difficult. But if we look at similar companies in the cancer space, the value of a typical development stage biotech firm with similar fundamentals to OncoSec is usually from $50 million to $1 billion depending on how advanced the programs are and how big the markets are for its candidates. OncoSec is a mid-stage development biotech company, and is ready to move to pivotal study with its lead candidate. The market of melanoma and/or other solid tumors is huge for its lead candidate ImmunoPulse.

With the estimated approval of ImmunoPulse in 2017, we model OncoSec will become profitable in fiscal 2018 with earnings per share (EPS) of $0.03 based on ImmunoPulse sales of $50 million. Revenue could double in fiscal 2019 and EPS will grow into $0.10 per share according to our estimates. If we use the biotech industry average P/E multiple of 35 and 20% discount rate for five years, we arrive at our price target of $1.50 per share for OncoSec, which values the company at $275 million in market cap. This valuation is still conservative in our view considering the relatively strong fundamentals of the company.

Recent interest in electroporation technology from big pharma could serve as a wildcard for OncoSec valuation. In September 2013, **Roche** entered into collaboration with **Inovio Pharmaceuticals** with an over $400 million investment in Inovio's electroporation technology. Also in Feb 2014, **Pfizer** entered into a collaboration agreement with **Ichor Medical Systems** to utilize Ichor's intramuscular electroporation technology. With proven clinical data, OncoSec's ImmunoPulse could be the next target for big pharma companies.



RISKS

- OncoSec is a development stage biotech company. Its lead candidate ImmunoPulse is in Phase II clinical trials and still needs to navigate through both clinical and regulatory hurdle. Any failure of the clinical studies will have a negative impact on its share price.

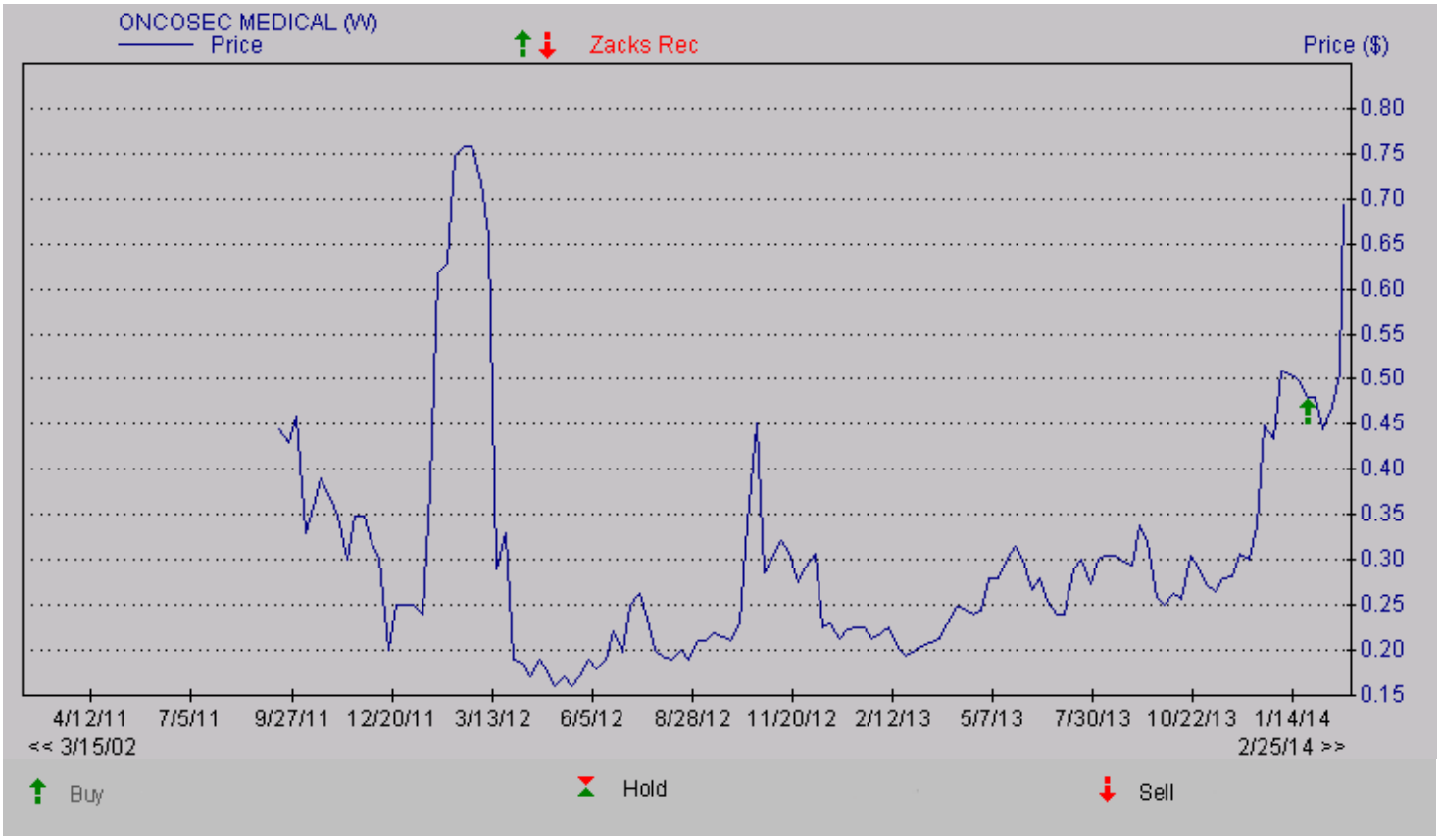
- Cash burn is another concern. Like most development stage small biotech companies, OncoSec needs to raise funds to advance both its preclinical and clinical programs. While we welcome any non-dilutive financing measures such as partnership agreement, but there is no guarantee that OncoSec can land a favorable partnership deal. In such a case, equity or convertible debt financing will be the choice. Such financing will dilute existing shareholder base, and will negatively impact share price.

PROJECTED INCOME STATEMENT

	2012 (Jul)	2013A (Jul)	2014E (Jul)					2015E (Jul)	2016E (Jul)	2017E (Jul)	2018E (Jul)	2019E (Jul)
$ in million except per share data	FYA	FYA	Q1A	Q2E	Q3E	Q4E	FYE	FYE	FYE	FYE	FYE	FYE
Grant revenue	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Collaboration revenue	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Product revenue	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$5.00	$50.00	$100.00
Total Revenues	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$5.00**	**$50.00**	**$100.00**
YOY Growth	-	-	-	-	-	-	-	-	-	-	900.0%	100.0%
CoGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	7.50	15.00
Gross Income	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$4.25**	**$42.50**	**$85.00**
Gross Margin	-	-	-	-	-	-	-	-	-	85.0%	85.0%	85.0%
R&D	$2.37	$3.16	$0.77	$0.78	$0.85	$1.00	$1.25	$4.50	$6.50	$8.50	$10.50	$13.00
% R&D	-	-	-	-	-	-	-	-	-	170.0%	21.0%	13.0%
SG&A	$3.16	$3.91	$1.21	$1.23	$1.25	$1.28	$4.97	$5.50	$9.50	$15.00	$17.50	$20.00
%SG&A	-	-	-	-	-	-	-	-	-	-	-	-
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Operating Income	**($5.5)**	**($7.1)**	**($2.0)**	**($2.0)**	**($2.1)**	**($2.3)**	**($6.2)**	**($10.0)**	**($16.0)**	**($19.3)**	**$14.5**	**$52.0**
Operating Margin	-	-	-	-	-	-	-	-	-	-	29.00%	52.00%
Other Net	$3.2	($0.1)	($0.0)	$0.0	$0.0	$0.0	($0.0)	$0.0	($0.1)	($0.1)	($0.1)	($0.1)
Pre-Tax Income	**($2.4)**	**($7.1)**	**($2.0)**	**($2.0)**	**($2.1)**	**($2.3)**	**($6.2)**	**($10.0)**	**($16.1)**	**($19.3)**	**$14.4**	**$51.9**
Income taxes(benefit)	$0.0	$0.0	$0.1	$0.0	$0.0	$0.0	$0.1	$0.0	$0.0	$0.0	$0.0	$0.5
Tax Rate	-	-	-	-	-	-	-	-	-	-	-	-
Reported Net Income	**($2.4)**	**($7.1)**	**($2.1)**	**($2.0)**	**($2.1)**	**($2.3)**	**($6.3)**	**($10.0)**	**($16.1)**	**($19.3)**	**$14.4**	**$51.4**
YOY Growth	-	-	-	-	-	-	-	-	-	-	-	256.2%
Net Margin	-	-	-	-	-	-	-	-	-			
Diluted Shares Out	67.4	106.6	144.2	183.5	185.0	190.0	175.7	225.0	300.0	400.0	450.0	500.0
Reported EPS	**($0.04)**	**($0.07)**	**($0.01)**	**($0.01)**	**($0.01)**	**($0.01)**	**($0.04)**	**($0.04)**	**($0.05)**	**($0.05)**	**$0.03**	**$0.10**
One time charge	*($3.16)*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*
Non GAAP Net Income	**($5.5)**	**($7.1)**	**($2.1)**	**($2.0)**	**($2.1)**	**($2.3)**	**($6.3)**	**($10.0)**	**($16.1)**	**($19.3)**	**$14.4**	**$51.4**
Non GAAP EPS	**($0.08)**	**($0.07)**	**($0.01)**	**($0.01)**	**($0.01)**	**($0.01)**	**($0.04)**	**($0.04)**	**($0.05)**	**($0.05)**	**$0.03**	**$0.10**

Source: company filing and Zacks estimates

HISTORICAL ZACKS RECOMMENDATIONS



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ZIR uses the following rating system for the 1052 companies whose securities it covers, including securities covered by Zacks SCR:
Buy/Outperform: The analyst expects that the subject company will outperform the broader U.S. equity market over the next one to two quarters.
Hold/Neutral: The analyst expects that the company will perform in line with the broader U.S. equity market over the next one to two quarters.
Sell/Underperform: The analyst expects the company will underperform the broader U.S. Equity market over the next one to two quarters.

The current distribution is as follows: Buy/Outperform- 16.7%, Hold/Neutral- 77.5%, Sell/Underperform – 5.2%. Data is as of midnight on the business day immediately prior to this publication.