TICKER	NASDAQ: KPTI
RATING	BUY
PRICE TARGET	$54.00
Price (November 04, 2014)	$43.30

Karyopharm Therapeutics Inc.

Broad Utility for SINE Platform and Lead Candidate Selinexor; Initiating with Buy and $54 PT

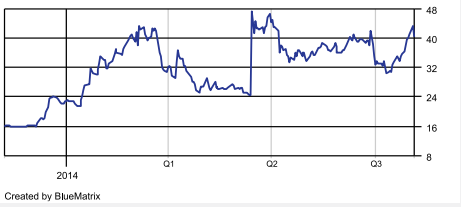
Market Data and Valuation Multiples	
Market Cap (M):	$1,342.0
Shares out (M):	32.7
Float (M):	13.1
Daily Vol, 3 Mo Avg (M):	0.0
52-Week Range:	$47.98-$15.50
Cash & Cash Eq (M):	$132.3
Debt (M):	$0.0

Financial Metrics	
Short Interest (M):	0.0
Instit. Holdings (%):	98.8%
Cash Burn (M):	$(46.1)
Short Interest (% of Float):	23.3%

EPS	1Q	2Q	3Q	4Q	FY
2014	-0.46A	-0.55A	-0.46E	-0.50E	-1.95E
2015	-0.57E	-0.58E	-0.58E	-0.64E	-2.37E
2016	—	—	—	—	-2.51E

Revenue ($M)	1Q	2Q	3Q	4Q	FY
2014	0.2A	0.0A	0.0E	0.0E	0.2E
2015	0.0E	0.0E	0.0E	0.0E	0.0E
2016	0.0E	0.0E	0.0E	0.0E	0.0E

1-Year Price History



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KPTI's wholly-owned, unique Selective Inhibitors of Nuclear Export (SINE) compounds have generated a broad therapeutic pipeline. Targeting high unmet needs in both solid tumors and hematologic malignancies, lead product candidate selinexor is currently in one registration-directed trial with four more planned. Thus, we expect multiple catalysts starting in 4Q14 through selinexor's initial regulatory approval projected in 2017. Our $54 PT is based on a probability-adjusted sum of the parts analysis including AML, DLBCL, Richter's, myeloma, sarcoma, and ovarian cancers and $6 cash.

Selinexor Re-Activates Anti-Cancer Regulatory Functions Enabling Broad Utility. As an inhibitor of XPO1, selinexor affects nuclear transport and cellular mechanisms otherwise hijacked by cancers to support unlimited growth. We think its unique and broad mechanism underlies selinexor's potential to address a broad range of oncology indications. Indeed, selinexor has shown early signs of efficacy both as monotherapy and in combination with other drugs in a variety of refractory cancers. Beyond resistant cancers, we also think selinexor can prove effective in earlier stage malignancies that typically have fewer genetic abnormalities. XPO1 inhibitors may also have utility in wound healing and inflammation, neither of which we currently include in our model.

One Pivotal Trial Is Ongoing with Four to Come. In June, KPTI initiated its first registration-directed trial in relapsing acute myeloid patients (AML) over 60 years old. By year-end, KPTI plans two additional registration-directed trials in relapsed Richter's Syndrome (RS) and relapsed/refractory Diffuse Large B Cell Lypmhoma (DLBCL) with another two in multiple myeloma (worth an estimated $18/share) and sarcoma slated to start by mid-2015. In 2017, selinexor could attain regulatory approval for 3 hematologic malignancies, though we think Richter's ($3/share) and DLBCL ($15/share) are more promising than AML ($5/share) given available data.

Registration-Directed Solid Tumor (Worth an Estimated $7/Share) Trials to Commence in 2015. In sarcoma ($1/share), KPTI plans to initiate a registrational-directed study in 1H15. In ovarian cancer ($6/share), 1/7 platinum-refractory patients had a response, and another naturally occuring XPO1 inhibitor previously showed a signal in early stage testing.

Myeloma Update at ASH; Registrational Study to Initiate in 1Q15. We see high potential in myeloma ($18/share) given its early efficacy in combination with dexamethasone; 4/8 patients responded, mostly in the first cycle, and 3 are still ongoing. Though early, this compares favorably with Pomalyst. At ASH, we expect an update from the data presented at the European Hematology Association (EHA) in June and data from an additional 2 patients.

Upcoming Catalysts. At the annual American Society for Hematology (ASH) meeting Dec. 6-9 (abstract release Nov. 6), we expect additional data in MM and non-Hodgkin's Lymphoma (NHL). Also, we expect initiation of registration-directed trials in Richter's and DLBCL in 4Q14 followed by myeloma and sarcoma trials 1H15.

INVESTMENT THESIS

We are initiating coverage of KPTI with a Buy-rating and a $54 price target. We believe KPTI's lead drug candidate selinexor is underappreciated and expect its unique mechanism to be proven effective across a broad range of tumor types and across different stages of disease. Ongoing clinical trials of selinexor in both hematologic malignancies and solid tumors have shown promising results with an acceptable side effect profile. We expect FDA and EMA to grant accelerated approval since selinexor is targeting initial indications in relapsed and/or refractory cancers for which there are limited options. However, beyond the five relapsed and refractory trials KPTI has planned, we also think selinexor can show activity in additional indications as well as in earlier stages of disease.

Selinexor Addresses Patients with Limited Treatment Options. Selinexor inhibits the nuclear export of tumor suppressor proteins, allowing them to remain in the nucleus where they can exert their function. After testing in a range of doses and schedules, selinexor has shown a notably tolerable adverse event profile. Even less fit patients can endure treatment at doses that have shown efficacy in relapsed and refractory disease. Thus, we see high potential for selinexor in patient populations with few treatment options.

Selinexor in Hematological Malignancies (worth $41e/share) Is Initial and Main Value Driver. We expect a positive outcome from the pivotal trials in relapsed and refractory AML, DLBCL, and Richter's, either currently ongoing or scheduled to start by year-end to be the basis for 2017 FDA approval. However, given the size of the addressable patient populations, we anticipate myeloma to be the main value driver, though not approved until 2019.

Selinexor Use in Solid Tumors Represents Upside. We also include valuation for sarcoma and ovarian cancers (worth $7e/share) since data is promising though preliminary. Additional trials in glioblastoma, metastatic prostate, and gynecologic cancers are planned. Most intriguing to us is selinexor's potential in squamous lung cancer, which *The Cancer Genome Atlas* (TCGA) indicates has highly upregulated XPO1, suggesting selinexor may be particularly efficacious in this difficult to treat cancer. We do not currently include any of these additional indications in our valuation pending clinical proof of concept or a regulatory path forward but note they represent upside to our valuation.

Frontline Therapy to Support Long Term Growth beyond Refractory Indications. Though KPTI is aggressively pursuing multiple refractory indications for selinexor, we believe its potential in earlier stages of disease wherein cancer cells harbor fewer mutations is largely overlooked. Selinexor's unique and broad regulatory mechanism would, in theory, be even more efficacious than in refractory cancers.

Rating Rationale

Our Buy rating is based on our view that selinexor has a 25-50% chance of showing benefit in four of the five registration-directed trials in relapsed and refractory patients. A pivotal trial in elderly AML patients is ongoing and we expect a pivotal trial in Richter's to commence later this year, all of which have potential to support regulatory approval in 2017.

CATALYSTS

Exhibit 1: Upcoming Catalysts

Date	Indication	Milestone
4Q14	NHL & MM	Updated data at ASH
4Q14	Richter's	Initiate Phase 2
	DLBCL	Initiate Phase 2
1Q15	Myeloma	Initiate Phase 2
1H15	Sarcoma	Initiate Phase 2
2Q15	AML	Complete Enrollment
4Q15	Ovarian	Initiate Phase 2

Source: Company reports, clinicaltrials.gov, and MLV Research.

BACKGROUND

Karyopharm Tackles Novel Mechanism of Action

Lead drug candidate selinexor is a specific and reversible XPO1 inhibitor

Karyopharm is developing small molecule, Selective Inhibitors of Nuclear Export (SINE), compounds to modulate nuclear export pathways in mammalian cells. Lead drug candidate, selinexor (KPT-330), is the result of a structure based high-throughput screen designed to create and identify a specific and reversible XPO1 inhibitor. One of the roles of XPO1 is exporting tumor suppressor proteins from the nucleus. Inhibiting XPO1 allows tumor suppressor proteins to accumulate in the nucleus, where they can inhibit uncontrolled cell growth. XPO1 overexpression occurs frequently in malignant cells and thus selinexor may demonstrate activity in a wide variety of cancers. To date, no other SINE is in clinical development, though a naturally occurring XPO1 inhibitor failed in a Phase 1 testing due to excessive toxicity.

Dynamics and Regulation of Nuclear Transport

Gene expression and DNA replication occur in the nucleus while most other cellular activities, such as metabolism and protein synthesis, take place in the cytoplasm or other organelles. In order to allow for distinct processes in both compartments, the nuclear envelope separates the nucleus and its contents from the cytoplasm. Since proper localization plays a critical role in a protein's function, cells have evolved a tightly regulated system to transport proteins both into and out of the nucleus.

Nuclear pore complexes (NPC) are large multi-protein structures that form channels in the nuclear envelope to control entry and exit of large molecules. While small molecules can enter or exit the nucleus without regulation, proteins and RNA require the help of karyopherins for their movement across the nuclear envelope. These proteins have three important interaction partners:

- cargo (protein or RNA),
- nucleoporin proteins that line the pore, and
- molecular switch that controls the binding of the cargo (small GTPase RAN)

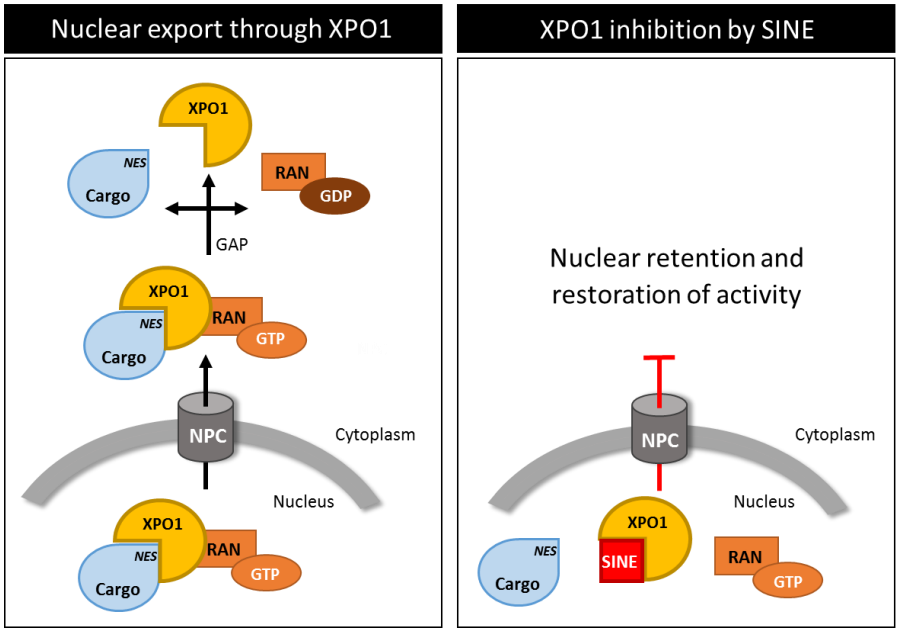
XPO1 is one of the best understood and most studied karyopherins

There are over 19 known human Karyopherin-β proteins (11 importins and 8 exportins), each functioning in distinct nuclear import, export or bi-directional transport (Chook and Suel, 2011). Regulation of protein trafficking between the nucleus and cytoplasm represents a novel target point for antineoplastic intervention, as many proteins depend on precise and timely positioning within the cell to fulfill their functions. Karyopharm's lead molecule targets Exportin 1 (XPO1), one of the classical and best understood karyopherins.

XPO1 Regulates Export of Many Proteins

XPO1 is one of eight known nuclear export proteins that recognizes the nuclear export signals (NES) that mediate the export of many proteins and certain RNAs. In the nucleus, XPO1 forms a complex with the nuclear export cargo and RanGTP, initiating the translocation from the nucleus, through the nuclear envelope and into the cytoplasm. Upon arrival in the cytoplasm, RanGTP is hydrolyzed to the inactive RanGDP, which triggers the dissociation of the cargo from XPO1. This switch is mediated by a GTPase activating protein (GAP), which is found only in the cytoplasm (Exhibit 2).

Exhibit 2: Selinexor's Mechanism of Action



Sources: Company reports

XPO1 transports many tumor suppressor proteins out of the nucleus

XPO1 mediates the export of approximately 220 different mammalian proteins, many of which are tumor suppressor, growth regulatory, and anti-apoptotic proteins as well as several mRNAs and ribosomal proteins that are essential for ribosomal biogenesis (Yoshimura et al., 2014).

Tumor suppressor proteins protect a cell from becoming cancerous by regulating the cell cycle and/or promoting apoptosis. In the nucleus, tumor suppressor proteins detect damage to DNA that could lead to cancer development and they subsequently trigger repair mechanisms or they induce the cell to die. Key tumor suppressors transported by XPO1 include TP53, TP73, CDKN1A (cyclin-dependent kinase inhibitor 1A), and mitogen activated protein kinase (MAPK, or extracellular signal-regulated kinase, ERK) (Yang et al., 2014). (Exhibit 3).

Restoration of tumor suppressor function is a logical anti-tumor strategy

In normal cells, TP53 is rapidly exported from the nucleus and degraded. When the cell experiences stress or DNA damage, TP53 gets activated and remains in the nucleus where it transcriptionally regulates the expression of genes required for DNA repair and cellular apoptosis. A deletion or mutation of the TP53 gene severely compromises tumor suppression, and this occurs in more than 50% of all tumors. Therefore, as the restoration of p53 function leads to regression of cancer cells without damaging healthy cells in the process, a drug which prevents the export of TP53 from the nucleus holds therapeutic promise.

Exhibit 3: Important Proteins Exported by XPO1

Name	Aliases	Function
TP53	Tumor protein p53	Master regulator of cell growth, senescence, and cell death; protects against DNA damage
TP73	Mitogen activated protein kinase	A TP53 family member, involved in cell cycle regulation, and induction of cell death
FOXO	Forkhead box proteins	Regulates the expression of genes that affect metabolism, growth, stress responses
IκB	Inhibitor of NF-kB	Binds to NF-κB and blocks its pro-inflammatory activities
CDKN1A	Cyclin-dependent kinase inhibitor 1 (or p21)	Functions as a regulator of cell cycle progression at G1 and S; mediates senescence
ERK	Extracellular signal-regulated kinases	Transmits stimuli from the cell surface to the nucleus to effect cell growth and survival

Sources: Company reports and MLV & Co. estimates.

The Therapeutic Potential of XPO1 Inhibitors

Cancer is a leading cause of death in the US, with an estimated 1.7 million new cases and approximately 580,000 deaths in 2014 (cancer.gov).

Many cancers are characterized by XPO1 overexpression

XPO1 expression is elevated in a variety of hematological malignancies and solid tumors, and its overexpression has been correlated with poor disease progression (Yoshimura et al., 2014). Increased levels of XPO1 alter cellular homeostasis, increasing export of tumor suppressor proteins from the nucleus and counteracting the apoptotic process. Since imbalanced nuclear–cytoplasmic trafficking and aberrant cytoplasmic localization of certain proteins play an important role in cancer development, growth and acquired resistance to anti-cancer agents (Kay et al., 2004), targeting XPO1 might represent an effective therapeutic strategy. SINEs are designed to block exportins, like XPO1, from binding to the nuclear export signal found on tumor suppressor proteins like TP53. Accumulation of tumor suppressor proteins in the nucleus of cancer cells renders them sensitive to apoptotic signals, while having minimal effects on normal cells. Therefore, XPO1 inhibition offers a novel and plausible therapeutic strategy in cancers that have inactivated their tumor suppressor proteins by overexpressing XPO1.

By blocking XPO1, SINEs can restore tumor suppressor function

Karyopharm's XPO1 inhibitor, selinexor, regulates the activity of a wide spectrum of tumor suppressor proteins, and its application may also have therapeutic effect in more difficult to treat tumors with 17p-deletions and p53 mutations, by inducing p53-dependent and independent apoptotic mechanisms (Yoshimura et al., 2014). This mechanism of action suggests that SINE compounds have the potential to provide therapeutic benefit in multiple hematological and solid tumor malignancies with different genetic alterations. Since selinexor also appears to be active in cancers

that are not overexpressing XPO1, we think it may also have a broad cell cycle inhibitory effect and thus benefit a wide range of patients.

Leptomycin B – A Failed Approach to Inhibit XPO1

Leptomycin B has significant in vitro potency but was poorly tolerated in patients

The naturally occurring Leptomycin B is an anti-fungal antibiotic produced by Streptomyces bacteria. Leptomycin B alkylates and irreversibly inhibits XPO1 in mammalian cells, inducing potent anti-cancer activity against a broad range of cancer cell lines in vitro (IC_{50} 0.1-10 nM). However, toxicities to normal cells were observed in both animals and humans, likely caused by the irreversible binding of leptomycin B to XPO1. Consequently, Phase 1 clinical trials failed due to dose limiting emesis, diarrhea, and asthenia without any obvious clinical activity (Newlands, 1996). However, limited activity was observed in patients with ovarian and epiglottic adenocarcinoma as well as a brief disease stabilization in a sarcoma patient.

Transient Inhibition of XPO1 by Selinexor

Semi-synthetic modification of Leptomycin B improved pharmacokinetic properties and tolerability, yet maintained cellular potency

In contrast to Leptomycin B, selinexor does not have a highly detrimental effect on normal cells. Selinexor inhibits XPO1-mediated nuclear-cytoplasmic transport through transient binding to the XPO1 cargo binding site. Such transient XPO1 inhibition lasts 12 to 24 hours and is sufficient for nuclear retention of tumor suppressor proteins. During this accumulation period, tumor suppressor proteins detect DNA damage, thereby inhibiting a cancer cell's ability to divide, promoting apoptosis. While healthy cells also build up tumor suppressor proteins in the presence of selinexor, since they have no DNA damage, normal activity resumes after transient XPO1 inhibition.

Selinexor binds XPO1 transiently, which reduces its toxicity relative to Leptomycin B. However, whether selinexor can be used at a high enough dose to exert a therapeutic effect without causing toxicity, remains to be determined. It is possible XPO1 inhibitors may leave high levels of residual disease at the maximum tolerated dose (MTD). This phenomenon was observed with pan-PI3K inhibitors that exerted only modest anti-tumor effects at the MTD. In contrast, inhibitors of PI3K-δ and PI3K-γ, like Gilead's Zydelig (idelalisib), which are only expressed in blood cells, can be used at much higher doses and have exhibited much greater success against hematologic malignancies (Fruman and Rommel, 2013). XPO1 inhibitors may work best when combined with other anti-cancer agents, rather than as monotherapy. In our view, synergy with DNA alkylating agents or pro-apoptotic therapies like BCL-2 inhibitors appears particularly attractive.

SELINEXOR IN CANCER

Elderly Acute Myeloid Leukemia

Elderly AML patients have few treatment options

AML is a cancer of the myeloid line of blood cells, characterized by the rapid growth of abnormal white blood cells that accumulate in the bone marrow and interfere with the production of normal blood cells. The incidence of AML dramatically increases after the age of 55 and is expected to rise, given the shift in demographics. However, the treatment of elderly patients, who are not fit enough to undergo bone marrow transplantation, currently remains a clinical challenge (Montalban-Bravo and Garcia-Manero, 2014). The median survival of AML patients worsens continuously with advancing age, and patients older than 65 years have a median survival of 7.4 months with a 5-year overall survival (OS) of only 10%. Over the past two decades, many compounds have been evaluated in elderly patients with AML, but none have demonstrated sufficient efficacy to gain FDA approval, due in part to significant toxicities that are exacerbated by the patient's co-existing medical problems and poor organ function.

In AML, elevated XPO1 levels are a predictor of poor survival and unfavorable cytogenetics and is associated with a higher number of marrow blasts, white cell counts, and peripheral blood blasts. Thus, inhibition of XPO1 activity through selinexor seems an attractive therapeutic option. A phase 1 dose escalation trial demonstrated that elderly, heavily pre-treated, relapsed/refractory AML (r/r AML) patients who received single agent selinexor achieved a 49% disease control response, including a 16% ORR (CR+CRp+PR+MFLS [morphological leukemia free state]) and a 34% SD (Exhibit 4). Notably, these results were independent of the cytogenetic status of the patient. Drug-related, grade 3/4 adverse events included anorexia, nausea, fatigue, diarrhea, vomiting, hypotension, hyponatremia, hypocalcemia, muscle weakness, hypophosphatemia, elevated AST, and cataract. Hematologic Grade3/4 adverse events included neutropenia, thrombocytopenia, anemia, WBC decrease, and leukopenia, and leukocytosis (see Adverse Events Section, page 18). Anorexia, nausea, and fatigue appear specific to selinexor and can beat least partially ameliorated by a high fat diet. We also note that some patients experienced Grade 1/2 blurred vision.

Exhibit 4: Phase 1 Refractory AML

Response	n=65
Overall Response Rate	15%
Complete Response	8%
Complete Response (i)	3%
Partial Response	2%
Morphological Leukemia Free State	3%
Stable Disease	34%
Progressive Disease	25%
Non-evaluable	26%

Sources: Garzon et al., EHA 2014.

Elderly Second Line AML Market Worth $5e/share

We expect selinexor to reach peak penetration of 20% in r/r AML to generate worldwide $224M revenues

In June 2014, Karyopharm initiated the registration-directed SOPRA, a randomized phase 2 study in 150 AML patients 60 years or older that are unfit for intensive chemotherapy or transplantation. Patients could have only received one prior line of therapy and must have ECOG PS 0-2. Patients were randomized to receive oral 55 mg/m2 selinexor twice weekly vs. physician's choice, which could include best supportive care, low dose Ara-C, and azacitadine or decitabine. The primary endpoint is overall survival, and key secondary endpoints include 3-month survival. We estimate cost of SOPRA is $9M.

Given the lack of effective options in elderly AML patients, we expect a positive outcome in SOPRA to support accelerated approval from both the US and Europe for selinexor in 2017. We estimate selinexor can attain peak 20% share in second line AML patients older than 60, corresponding to global sales of $224M from 3600 patients..

Richter's Syndrome

Richter's is a rare but deadly form of leukemia

Richter's is a rare transformation of chronic lymphocytic leukemia (CLL) occurring in less than 10% of patients. In a retrospective study comparing chemotherapy or chemoimmunotherapy as a treatment, the median survival for Richter's patients was less than ten months in both cases. The transformation is characterized by a much more aggressive lymphoma and a poor survival rate, with less than a 10% 1-year survival for high risk groups in the first year. In a study of 148 patients the median survival was one year in low risk groups and less than three months in high risk groups. The risk of transformation increases with the number of prior regimens. In a recent study wherein investigators used whole exome sequencing to track the evolution of Richter's from CLL, the majority of transformations were clonal, and genetic pathways implicated in the transformation

included TP53, NOTCH1, MYC, and CDKN2A/B, which together accounted for ~90% of all Richter's cases (Fabbri et al., 2013).

The most common form of transformation is to the DLBCL type, and as a result, Richter's patients are treated in the same manner as DLBCL patients (RCHOP). Richter's harbors mutations in NOTCH1 and TP53 but lacks many of the genetic abnormalities seen in *de novo* DLBCL, such as translocations in BCL2, BCL6, and B2M (Jain et al, 2014). In relapsed/refractory CLL, Imbruvica had an ORR of 65% at 12 months, but 7 of 11 patients progressing on Imbruvica developed Richter's (Byrd et al., 2014). DLBCL and Richter's are molecularly dissimilar and thus, therapies effective in DLBCL may not be efficacious in Richter's.

Chemo-refractoriness in Richter's is problematic and could potentially be overcome by selinexor

A limited number of studies have been done in Richter's patients, none of which have improved median survival. Chemotherapy versus chemo-immunotherapy showed similar outcomes. Though somewhat effective, stem cell transplantations can only be used in fit patients (Jain et al., 2012). Thus, there are limited treatment options available for Richter's patients, and chemo-refractoriness is particularly problematic. Selinexor's broad mechanism of action, may be able to overcome the chemo-refractoriness by targeting multiple mechanisms driving tumor progression.

Selinexor has shown responses in a limited number of patients. One patient remained on the study for 85+ days, whereas the rest were on the study <48 days. Two patients who had documented stable disease, progressed off study (Exhibit 5).

Exhibit 5: Efficacy in Richter's from Phase 1 NHL Dose Escalation Trial

Response	n=5
Overall Response Rate	40%
Complete Response	--
Partial Response	40%
Stable Disease	60%
Progressive Disease	--
Withdrew Consent	--

Sources: Gutierrez et al., ASCO 2014

Relapsed Richter's Syndrome Market Worth $3e/share

We estimate selinexor can penetrate 35% in relapsed Richter's and generate $166M peak global sales

Theoretically, selinexor's mechanism should be particularly suited for chemo-refractory settings such as Richter's, and indeed, selinexor treatment has resulted in 2/5 relapsed/refractory patients with documented progression at study entry achieving a response. For Richter's Syndrome, KPTI plans to initiate a registration-directed, single-

arm, open-label trial in 50 relapsed/refractory Richter's patients called SIRRT in 4Q14. ECOG PS 0-2 patients must have documented progression at study entry and will receive 60-120 mg fixed dose monotherapy selinexor twice weekly. The primary endpoint is response rate at 12 weeks, as defined by the International Working Group Criteria (IWG).

If positive, we believe the SIRRT trial could be the basis for regulatory approval in 2017. We estimate clinical trial costs of $4.5M. Given the limited alternative therapies, we believe selinexor can penetrate 35% of relapsed Richter's patients and 10% frontline Richter's patients, corresponding to $166M global sales from 1000 patients.

Diffuse Large B-Cell Lymphoma (DLBCL)

DLBCL is an aggressive form of non-Hodgkin lymphoma (NHL), accounting for approximately 35% of the 70,800 newly diagnosed cases in 2014. With existing treatment options, the 5-year overall survival rate is between 30-50% for all patients with DLBCL. DLBCL is a cancer of B-cell origin with a number of different sub-types. This heterogeneity leads to a varied prognosis and response to treatment.

At the time of presentation, patients undergo biopsy to confirm a diagnosis and stage (I-IV) of DLBCL. First-line therapy is similar across all stages: combination chemotherapy RCHOP. The inclusion of radiation therapy is considered for earlier stages of the disease, although its benefit is offset by increased risk for secondary malignancies. With the addition of rituximab to the standard of care, CHOP, overall survival in DLBCL has improved markedly. Without RCHOP, the 5-year overall survival (OS) rates range from 73% for low risk groups, to as low as 26% in high risk groups. With RCHOP, the 5 year OS is 82% and 59% for those same risk groups (Cultrera et al., 2012)

Advances in molecular and genetic diagnostics have led to a better understanding of DLBCL subtypes. Based on genetic analysis, DLBCL is divided into three distinct groups: germinal-center B-cell (GCB), activated B-cell (ABC), and primary mediastinal large B-cell (PMBL) types. The clinical outcome for each group differs. Studies focused on GCB and ABC have shown clear differences in prognosis with progression free survival (PFS) at one year of 85% and 57%, respectively. While ABC carries a worse prognosis, GCB treatment options are more limited.

New Drugs Are Not As Active in ABC as GCB DLBCL

B cell receptor signaling via BTK and NF-κB are activated in the ABC subtype of DLBCL, and thus, BTK inhibitor Imbruvica would be expected to more efficacious in ABC than GCB. Indeed, in a 70-patient Phase 2 trial (Wilson et al., ASH 2012), 5% of GCB patients achieved a response vs 41% of ABC patients, though baseline characteristics indicated the GCB population were somewhat worse off than ABC (20% vs 7% ECOG PS2, 70% vs 41% refractory disease).

In a retrospective analysis of 40 relapsed/refractory DLBCL patients treated with single-agent immunomodulator Revlimid from NHL-002 and NHL-003, 53% non-GCB vs 9% GCB patients achieved a response. Similarly, proteasome inhibitor Velcade inhibits the NF-κB and only benefits the non-GCB subtype in combination with chemotherapy (Cultrera, 2012).

Selinexor shows early promise in both ABC and GCB DLBCL subtypes

In contrast, 24 patients with documented progression at study entry, selinexor showed promising results in a dose-escalating Phase 1 trial. Importantly, responses were independent of subtype with an overall response rate of 27% in the GCB subtype and 25% in the ABC subtype (Phase 1) (Exhibit 6), potentially enabling selinexor to enter and capture a large proportion of the GCB market.

Exhibit 6: Efficacy in DLBCL from Phase 1 Dose Escalation Trial

Response	GCB	non-GCB	Unknown
N	11	4	9
Overall Response Rate	27%	25%	22%
Complete Response	9%	--	--
Partial Response	18%	25%	22%
Stable Disease	46%	50%	56%
Progressive Disease	18%	25%	22%
Withdrew Consent	9%	--	--

Sources: Kuruvilla et al., EHA 2014

Although unlikely to become standard clinical practice in the near future, recent advances in sequencing technologies have identified a number of prognostic in DLBCL. These include alterations in oncogenes MYC, BCL2, and BCL6, which are key regulators of proliferation and cell death. Concurrent mutations and or translocations in MYC and BCL2 results in a poor prognosis, as shown in a 140 patient study in DLBCL. The 5-year OS for MYC/BCL2 mutants was 39% (Johnson, 2012).

Selinexor has shown promising results in "double hit" DLBCL, which usually has the poorest outcome

In the limited data available, selinexor has demonstrated robust activity in double-hit DLBCL which accounts for upwards of 30% of DLBCL malignancies (Hu, 2013). Of four DLBCL patients treated in the Phase 1 selinexor dose-escalation trial, one complete response (CR) patient was ongoing at 249+ days on study after receiving standard regimens of RCHOP and rituximab, ifosfamide, carboplatin, and etoposide (RICE). Two other patients achieved stable disease (SD) while one patient progressed.

The frequency of XPO1 amplification is the highest in DLBCL, thus, it is plausible that selinexor could have robust activity in DLBCL compared to cancer types that show lower frequencies of XPO1 amplification. This mechanism will likely work in addition to the broad cell cycle arrest

already seen with selinexor, resulting in multiple mechanisms to induce anti-tumor activity. Together, these mechanisms could result in a more favorable outcome compared with drugs specifically targeting B-cell signaling. Data from KPTI in selinexor-treated cells shows a reduction in proteins MYC and BCL2, which would result in a reduction in proliferative capacity of the cancer cells.

Relapsed/Refractory DLBCL Market Worth $15e/share

KPTI is initiating a 200-patient Phase 2b registration-directed trial called SADAL in 4Q14, in relapsed/refractory DLBCL, using selinexor in combination with dexamethasone. Patients must have ECOG PS 0-2, have documented evidence of disease progression at study entry, and have had 2-4 prior DLBCL treatment regimens. Patients will be randomized to receive 100 mg selinexor + 12 mg dexamethasone vs. 60mg selinexor + 12 mg dexamethasone twice weekly for 3 weeks out of each 4-week cycle. The primary endpoint is response rate according to revised IWG criteria. We estimate trial costs of $12M.

We expect selinexor can reach 30% GCB and 5% non-GCB patients and generate peak global sales of $507M

Provided that the registration-directed SADAL trial in relapsed/refractory DLBCL (on track to start in 4Q14) has a positive outcome, we expect accelerated approval in 2017, particularly given the lack of available therapies for this patient population. We estimate selinexor can gain 30% share in patients with the GCB subtype of DLBCL, which despite its better prognosis has fewer therapeutic options. We also expect 5% penetration into the non-GCB subtype, for which multiple options are available and a number of drugs approved in other indications are showing great promise (Imbruvica, Revlimid, and Zydelig). In DLBCL, we expect, selinexor can reach 3500 patients globally, corresponding to $507M revenue.

Multiple Myeloma

Multiple myeloma (MM) is a hematological malignancy that is most common in elderly patients, with a median age at diagnosis of 65-70 years. MM is characterized by accumulation of monoclonal plasma cells in the bone marrow, the presence of monoclonal immunoglobulin (M protein) in the serum or urine, bone disease, kidney disease, and immunodeficiency. Intensive research has improved the treatment and outcome for MM over the last 20 years. High-dose chemotherapy and autologous stem cell transplantation, followed by treatment with the immunomodulatory agents Thalidomid and Revlimid and proteasome inhibitor Velcade represent the standard of care, which increased the 10-year survival rate to around 40% in patients younger than 50 years old. Recently, Revlimid maintenance has shown effectiveness. Unfortunately, the majority of patients eventually relapse and become drug-resistant. Much effort is put into identifying new agents effective in relapsed and refractory MM (r/r MM) patients, including the study of new proteasome inhibitors (Kyprolis, ixazomib, oprozomib, and marizomib), immunomodulatory drugs (Pomalyst), monoclonal antibodies

(elotuzumab and daratumumab), and histone deacetylase inhibitors (Zolinza and panobinostat). Given selinexor's novel mode of action and the low frequency of p53 deletion events in r/r MM, Karyopharm's lead drug might be able to improve the overall survival rate of r/r MM patients more significantly than other drugs, due to the strong reactivation of the potent tumor suppressor protein p53.

Selinexor induces responses in refractory and relapsed myeloma patients

The Phase 1 clinical trial of selinexor in r/r MM patients has shown promising anti-cancer activity (Exhibit 7). Patients had at least 3 prior regimens that included at least one of immunomodulator, proteasome inhibitor, and a steroid. While single agent selinexor treatment, either at low or high dose, showed a clinical benefit response in only 23% and 12% of treated patients, respectively, the response rate to the combination therapy of selinexor with dexamethasone was significantly higher. Six of the eight r/r MM patients (75%) experienced either a MR (2 patients), PR (3 patients) or sCR (1 patient) (Exhibit 7). Notably, three of the treated eight patients had a light chain MM type (FLC-λ or FLC-κ), which generally has a poorer prognosis and does not respond to therapy as well as the typical form. Interestingly, two of the three treated FLC r/r MM patients showed a response (PR and sCR) to the combination therapy. Thus, we are cautiously optimistic that selinexor can impact the current unmet medical need for not only r/r MM but also the light chain r/r MM patient population.

Exhibit 7: Efficacy in r/r MM from Phase 1 Dose Escalation

Response	Selinexor low dose	Selinexor high dose	Selinexor + Low Dex
N	17	17	8
Overall Response Rate	--	6%	50%
Stringent Complete Response	--	--	12%
Partial Response	--	6%	38%
Marginal Response	24%	6%	25%
Stable Disease	47%	47%	--
Progressive Disease	18%	18%	12%
Withdrew Consent	12%	24%	12%

Sources: Chen et al., EHA 2014.

Drug-related Grade 3+ adverse events at low dose selinexor included (6%) Grade 3 fatigue, 1 (6%) Grade 3 cataract, 1 (6%) Grade 3 and 4 (24%) Grade 4 thrombocytopenia, 1 (6%) Grade 3 and 2 (12%) Grade 4 neutropenia, 1 (6%) Grade 4 leukopenia, and 3 (18%) hyponatremia. At the high dose of selinexor, Grade 3+ drug-related adverse events (DRAE) included 1 (6%) Grade 3 of each fatigue and diarrhea, 2 (12%) Grade 3 dehydration, 1 (6%) Grade 3 fever, 6 (35%) Grade 4 thrombocytopenia, and 3 (18%) Grade 3 hyponatremia.

Additional investigator sponsored trials include ongoing and planned combination studies of selinexor + Kyprolis, selinexor + dexamethasone + pegylated liposomal doxorubicin, and selinexor + Pomalyst + dexamethasone.

Relapsed/Refractory Myeloma Market Worth $18e/share

Myeloma update at ASH 2014

In multiple myeloma, we note that of 8 relapsed and refractory patients receiving selinexor in combination with dexamethasone, 4 (50%) achieved a response. Though early, this is highly competitive with the 25% seen with Pomalyst in the MM-002 trial. At ASH, we expect an update of the original 8 patients presented at EHA as well as efficacy data from an additional 2 patients.

We expect selinexor can reach 15% share in r/r MM and generate peak sales of $651M worldwide

In 1H15, Karyopharm plans to initiate a registration-directed Phase 2 trial of selinexor + dexamethasone. In line with other myeloma trials, we expect the trial to enroll 250 r/r MM patients and cost ~$15M. With a positive trial outcome, we estimate selinexor can gain 15% share in the r/r MM population, reaching 7400 patients and generating $651M globally at peak.

Soft Tissue Sarcoma (STS)

Soft tissue sarcomas develop in organs of mesenchymal origin, arising in diverse tissues including muscle, fat, tendons, synovial membranes, and connective tissues. They are relatively rare, with 8,700 new cases estimated in the US each year (Rastrelli et al., 2014). Surgical resection combined with radiation therapy is the standard of care. However, as many as 64% of the patients seeking treatment have advanced disease, and 50% of those will develop metastases within 5 years. (Canter et al., 2008, Rastrelli et al., 2014). Metastatic STS is generally inoperable, and life expectancy is 12 months.

First-line therapy for metastatic sarcoma is doxorubicin, either as monotherapy or with ifosfamide. However, studies demonstrate that it only has a response rate of 16% to 27%, leaving a substantial population in need of better therapies. Single agent selinexor demonstrated durable stable disease in seven out of eight patients with soft tissue sarcoma, with two having 9 and 22 month durability of response. Current data tabulated below (Exhibit 8).

Objective response rates are not considered to provide a good measure of benefit in this family of cancers. Instead more focus is being paid to other indicators such as disease stabilization and progression free survival (George et al., 2014). Selinexor's mechanism of action might synergize well with anthracycline chemotherapies such as doxorubicin which intercalate between the base pairs of DNA/RNA strands and stall DNA and RNA synthesis.

Exhibit 8: Sarcoma Efficacy from Ph1 Dose Escalation and Ph1b Food Effect

Response	n=8	n=29
Partial Response	--	--
Stable Disease	88%	52%
Progressive Disease	12%	38%
Non-evaluable	--	10%

Sources: Gounder et al., Sorensen et al., ASCO 2014.

Metastatic Soft Tissue Sarcoma Market Worth $1e/share

We expect selinexor can reach 25% share in refractory metastatic sarcoma and generate peak sales of $92M worldwide

Patients with metastatic STS have extremely limited options, many of the responders progress within a year. Promisingly, selinexor elicited a durable response in seven out of eight patients with sarcoma in Phase 1 trials and 11/22 sarcoma patients in the Phase 1b food effect study. We believe selinexor could receive approval for both first line and refractory metastatic soft tissue sarcoma and model peak 3% of the first line and 25% refractory share, reaching global sales of $90M from approximately 2,000 patients. We estimate clinical trial costs of $12M from approximately 200 patients.

Platinum Refractory Ovarian Cancer Market Worth $6e/share

We expect selinexor can reach 10% share in platinum refractory ovarian cancer and generate peak sales of $353M worldwide

In ovarian cancer, data on 7 patients previously treated with platinum therapy were presented at ESMO 2014 (Exhibit 9). We are encouraged that the single patient that had a response was highly treated with 5 prior lines of platinum treatment, paclitaxel, and a PARP inhibitor and is continuing on study for 5 months. Another 2 patients had stable disease, one of which was on study for ~13 months. Intriguingly, an ovarian cancer patient treated with Leptomycin B showed a transient reduction in ovarian marker CA125, suggesting XPO1 inhibition may benefit ovarian cancer patients. We expect selinexor can gain 10% share in the platinum refractory population, reaching 2100 patients and generating $353M globally at peak. We estimate clinical trial costs of $15M from approximately 250 patients.

Exhibit 9: Response Rate in Refractory Ovarian Cancer

Response	n=5
Partial Response	20%
Stable Disease	40%
Progressive Disease	40%

Sources: Martignetti et al., ESMO 2014.

Other Indications Represent Upside to our Model

Karyopharm conducted a multitude of preclinical studies in solid tumor malignancies that document evidence of anti-cancer activity of selinexor in prostate, breast, neuroblastoma, melanoma, lung, glioblastoma, alveolar soft part sarcoma, colon, and ovarian cancers. Additional combination studies were performed with paclitaxel, irinotecan, topotecan, and radiation therapy, and additive effects on tumor growth inhibition were documented in all cases.

As in hematological malignancies, selinexor treatment of solid tumors results in the forced retention of tumor suppressor proteins in the nucleus through the inhibition of XPO1 activity. Depending on tumor type, XPO1 inhibition leads to the restoration of different tumor suppressor proteins and activation of their downstream signaling pathways. For example, while selinexor treatment in head and neck squamous cell carcinoma (HNSCC) activates p53 and Fbxw7, it restores p53, p27, and Foxo3a in prostate cancer. These results suggest that selinexor can activate any tumor suppressor protein that is retained in a wild-type, yet inactive, state in a cancer cell. Given the broad spectrum of targeted tumor suppressor proteins, we believe that selinexor's mechanism of action can prove to be efficacious in solid tumors.

Selinexor shows anti-cancer activity across a broad range of solid tumor types

Indeed, preliminary evidence of anti-cancer activity of selinexor were supported by positive safety and response data from phase 1 studies of patients with advanced or metastatic solid tumor malignancies (Exhibit 10). Notably, selinexor treatment resulted in SD in 60% of patients post chemotherapy refractory, castrate-resistant prostate cancer (CRPC), with duration of treatment up to 502 days. These heavily pretreated patients have no other standard treatment options available. Additionally selinexor also demonstrated early signs of clinical activity in other solid tumor types including HNSCC cancer. We currently do not include these indications in our valuation.

Phase 2 studies in relapsed glioblastoma, cervical, and uterine carcinomas ongoing

Karyopharm has initiated Phase 2 clinical trials of selinexor in relapsed glioblastoma, cervical and uterine carcinomas and expects to initiate Phase 2 clinical trials in squamous head and neck or lung cancers, and CRPC.

Exhibit 10: Response Rates in Advanced or Metastatic Solid Tumors

Response	Colorectal	HNSCC	CRPC	Cervical	GBM	Melanoma	Others	Total
N	39	14	8	5	5	3	19	93
Partial Response	3%	--	--	20%	--	33%	--	3%
Stable Disease	33%	64%	88%	60%	--	33%	32%	42%
Progressive Disease	64%	36%	12%	20%	100%	33%	68%	55%

Sources: Sorensen et al., ASCO 2014.

Selinexor Adverse Events Across Oncology Trials

Grade 3/4 drug-related adverse events with selinexor therapy include nausea, fatigue, anorexia, hyponatremia, neutropenia, and thrombocytopenia. Of note, there was one Grade 3 cataract; transient eye issues and blurred vision were also reported. Karyopharm has indicated that across trials, 10-15% patients have experienced some blurred vision, though these were transient in nature, and with baseline ophthalmology exam, this did not appear drug related.

Canine Lymphoma – Potential Royalty Revenue Not Included in Our Valuation

Canine lymphomas are one of the most common tumors in pet dogs, and present as a very aggressive disease that is fatal within weeks without treatment. Canine lymphomas display a comparable genetic profile to the human counterpart.

Verdinexor has shown efficacy in aggressive canine cancer

Karyopharm has developed verdinexor (KPT-335), an oral SINE structurally analogous to selinexor, for the treatment of dogs with newly diagnosed or first relapsed non-Hodgkin lymphoma (NHL). In a Phase 2b study of 58 dogs, single-agent verdinexor (30 mg/m2) induced an overall response rate of 34%, including 32% PR and 2% CR (in a dog with T-cell lymphoma), and an additional 57% experienced SD for at least four weeks. Long-term dosing exhibited only mild gastrointestinal toxicities, which were reversible with concomitant medications and had no impact on quality of life. Compared to standard chemotherapeutics, which require intravenous administration on a weekly basis, verdinexor's oral drug administration by the dog owner offers a unique advantage.

Partnership needed for successful commercialization

Safety and efficacy sections of a New Animal Drug Application (NADA) for regulatory approval were submitted to the FDA in December 2013. The required portions of the NADA are being submitted initially under the Center for Veterinary Medicine's (CVM) Minor Use and Minor Species (MUMS) guidelines. We expect Karyopharm to seek an animal health partner to arrange the commercial-scale manufacturing of verdinexor and commercialize the product. Though we do not include revenues from the

pet market in our model, we note that this could represent a steady stream of royalties to Karyopharm.

INTELECTUAL PROPERTY

Karyopharm holds US patent 8,513,230, issued in 2013, for the synthesis and use of specific CRM1 inhibitors "in the treatment, modulation or prevention of physiological conditions associated with CRM1 activity." Current protection ends in 2032. KPTI is aggressively protecting their position with 24 pending patents both in the US and internationally. Pending patents cover composition and methods of use for selinexor (KPT-330), KPT-350, Verdinexor (KPT-335) and their PAK4 inhibitors.

COMPANY DESCRIPTION

Karyopharm Therapeutics Inc. (KPTI) is a Massachusetts-based, clinical-stage pharmaceutical company focused on the discovery and development of SINE compounds directed against nuclear transport targets. This therapeutic modality functions by preventing the export of tumor suppressor proteins from the nucleus, thereby leading to nuclear accumulation and reactivation of their tumor suppressor function. KPTI has one product in clinical development for the treatment of multiple hematological and solid tumors. A related compound for the treatment of dog NHL awaits FDA approval.

MANAGEMENT TEAM AND BOARD OF DIRECTORS

KPTI has assembled a management team with industry and commercial expertise, and deep disease-specific knowledge in order to achieve commercial success. Here, we outline the backgrounds of several key members of the team.

Michael G. Kauffman, MD, PhD. President and Chief Executive Officer. Dr. Kauffman has over 20 years of experience in Pharma/Biotech. He has served as Karyopharm's President and CEO since 2011, and cofounded the company with Dr. Shacham in 2008. With cancer drugs such as Kyprolis (carfilzomib) and Velcade (bortezomib) reaching FDA approval under his leadership, Michael has a proven track record of drug development in cancer. He was involved in the management team of several biotechnology companies, including Onyx Pharmaceuticals (CMO, 2008-2010), Epix Pharmaceuticals (CEO, 2006-2008), Predix Pharmaceuticals (CEO, 2002-2006), and Millennium Pharmaceuticals (VP, 2000-2002).

Sharon Shacham, PhD, MBA. President and Chief Scientific Officer. Dr. Shacham has served as the President of Karyopharm since December 2013 and as the CSO since October 2010. Having developed the

computational drug discovery algorithms that form critical part of the drug discovery and optimization platform, she led Karyopharm to the discovery of selinexor. Prior to joining Karyopharm, she served as the Senior Vice President of Drug Development at Epix Pharmaceuticals (2000-2009).

Justin A. Renz, CPA, MST, MBA. Executive Vice President and Chief Financial Officer. Mr. Renz has over 20 years of experience in finance. He joined Karyopharm in August 2014, after serving as an executive VP, CFO, and Treasurer at Zalicus Inc. (formerly known as CombinatoRx) since 2006.

FINANCIALS AND VALUATION

Commercialization Assumptions

KPTI owns compounds under development and carries its own sales force team. We expect KPTI to hire a global salesforce of 225 to market selinexor to hematologists and oncologists.

Valuation Approach 1: Probability-Weighted Valuation of Pipeline Assets and Partnerships

We derive a value of $54 per KPTI common share based on a probability-adjusted sum-of-the-parts analysis. We estimate wholly owned lead product candidate Selinexor is worth $48 per share. Cash on hand comprises the remaining $6 of our valuation of KPTI shares.

This valuation methodology takes into account the expected after-tax profits over 4Q14-2032, adjusted for likelihood of Selinexor reaching the market. Given Selinexor is expected to complete the first of its pivotal Phase 2 trials in 2016 early stage of development, we assign a cumulative range of 25%-50% probability of selinexor reaching the market for AML, DLBCL, Richter's, MM, sarcoma, and ovarian cancers.

We forecast after-tax profit streams through 2032, adjusted (*i.e.,* haircutted) for the probability of reaching the market, as well as a 2032 terminal value (which assumes 0% terminal growth rate). We discount these probability-adjusted profit streams back at a 10% rate.

Alternate Valuation Methodology: Discounted Cash Flow Analysis

We also value KPTI shares using a traditional discounted free cash flow (DCF) analysis based on our consolidated financial model. Our model includes forecasts out to 2032 for Selinexor in six different indications, including AML (60 years+), DLBCL, Richter's syndrome, myeloma, sarcoma, and ovarian cancer. Our discounted cash flow analysis attempts to capture cash sources and uses not reflected in our primary valuation methodology (discounted probability adjusted after-tax earnings

discussed above), particularly for a company that is expected to independently manufacture and market its lead candidate. Items that are captured in a DCF include the add-back of estimated stock compensation expense, working capital (accounts receivable and inventory) as well as depreciation and capital expenditures.

The $54 price target we derive from our primary valuation methodology (discounted earnings) is roughly equivalent to a DCF that assumes a 15.1% all-in discount rate and a terminal growth rate of 0% through the year 2032. For our purposes, we define "free cash flow" as cash from operations less capital expenditures.

Our DCF is a standard two-stage model. The first stage is an estimate of the net present values of discounted free cash flow from 4Q14 to 2032. The second stage is an estimated terminal value (also discounted back to today's dollars), based on projected 2032 free cash flow which we assume grows at zero percent in perpetuity. In our DCF, our $54 price target breaks down as follows: $34 per share for free cash flows through the year 2032, $14 per share for the estimated terminal value, and $6 per share in year-end 2014 cash. Note that our "denominator" for the DCF per share calculation is weighted average year 2032 shares.

We assume selinexor can be priced at $12,000 per month in the US and at a 35% discount ($7800/month) in Europe and Japan. We also assume KPTI can produce selinexor at typical biopharmaceutical COGS of 10%.

KPTI is simultaneously pursuing regulatory approval for lead product candidate selinexor in multiple indications, and we base our forecasts and valuation on six indications: AML, Richter's, DLBCL, MM, sarcoma, and ovarian cancer. Our market size, launch, penetration and commercialization assumptions are outlined below (Exhibit 11).

Exhibit 11: Summary of potential Selinexor Timelines and Markets

Summary of Potential Selinexor Timelines and Markets				
Market	US Approval	Peak Penetration	Peak Sales	# Patients
r/r AML, >60 years old	2H17	20%	$224 (2023)	3600
r/r Richter's	2H17	30%	$166 (2023)	1000
r/r DLBCL	2H17	30%	$507 (2023)	3500
r/r Multiple Myeloma	2H19	15%	$651 (2025)	7400
Refractory Metastatic STS	mid-18	25%	$92 (2024)	2100
Platinum Refractory Ovarian	2H18	10%	$353 (2024)	2100

Sources: Company reports and MLV & Co. estimates.

INVESTMENT RISKS

Risks to our outlook include clinical and regulatory delays, commercialization risk, financing risk, and intellectual property risk.

Clinical and regulatory risk. KPTI is a development stage company that has yet to attain regulatory approval for any drug candidate, and it is possible it may never do so. Currently, Selinexor is in Phase 2 trials in several indications. We assume that data will be sufficient to further develop Selinexor. Drug candidates could fail to show sufficient risk/benefit profiles to support regulatory approval. Additional information and/or additional trials could be required by regulators to address any safety or efficacy concerns. If this were to occur, this could significantly delay revenue generation going forward, and could materially impact our forecasts.

Commercial risk. KPTI is a lean company and does not currently have a sales force. KPTI may seek a partner with manufacturing and/or marketing capabilities. KPTI could be unable to generate the revenues we forecast. Lack of uptake by physicians, patients or payers due to more efficacious and/or easier to adhere to treatment options will also affect our revenue projections and thus, our valuation.

Financing risk. Currently, KPTI is cash-flow negative, and therefore is likely to require additional funding. We believe KPTI will need to raise cash in the capital markets before first drug approval. This would dilute current shareholders and lower expected returns for investors.

Intellectual property risk. KPTI's issued patents may be invalidated or expire, allowing additional competitors to enter their markets.

Exhibit 12

Karyopharm Therapeutics Inc. (KPTI) Probability Weighted Sum of the Parts Discounted Earnings Valuation ($MM)

Drug	Peak Sales ($ MM)	Stage	(Estimated) Launch	Probability of Reaching Market	Share	Probability Adjusted NPV	Per Share Value
Hematologic Malignancy	$1,548		2017		100%	$1,554	$41
AML 60+ years old	$224	2	2017	40%	100%	$198	$5
DLBCL	$507	2	2017	45%	100%	$555	$15
Myeloma	$651	2	2019	50%	100%	$678	$18
Richter's Syndrome	$166	2	2017	50%	100%	$123	$3
Solid Tumor	$446		2018		100%	$268	$7
Sarcoma	$92	1	2018	25%	100%	$35	$1
Ovarian	$353	2	2019	30%	100%	$233	$6
TOTAL	$1,994				100%	$1,822	$48

Cash		
Cash (12/31/14)	$222	$6
Total firm value	$2,044	

Debt	Face ($MM)
Total Debt	$0

Equity value	$2,044
Shares Outstanding YE 2032 (MM)	$38
Equity value per share	$54

Discount Rate	10.0%
Time of Valuation	11/4/14

Note: Numbers may not add due to rounding
Sources: Company reports and MLV & Co. estimates.

Exhibit 13

Karyopharm Therapeutics Inc. (KPTI) - Selinexor (for AML) Probability Adjusted Discounted Earnings Valuation ($MM)

Discount Rate	10.0%

Probability of Success	Per Stage
Preclinical	100%
Phase I	100%
Phase II	64%
Phase III	70%
FDA	95%
Market	95%
Cumulative	40%

	4Q14E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Revenue Forecast ($MM)	**0.0**	**0.0**	**0.0**	**2.2**	**23.9**	**71.9**	**98.9**	**125.7**	**142.8**	**153.0**	**159.5**	**166.0**	**172.8**	**180.1**	**187.9**	**196.1**	**204.9**	**214.3**	**224.3**
Milestone Forecast																			

Stage	Phase 2	Phase 3	Phase 3	FDA	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market
COGS	0.0	0.0	0.0	0.2	2.4	7.2	9.9	12.6	14.3	15.3	16.0	16.6	17.3	18.0	18.8	19.6	20.5	21.4	22.4
R&D	2.5	12.4	12.3	11.9	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
SG&A	0.7	3.1	4.7	9.4	12.8	14.6	15.8	16.1	16.5	16.9	17.2	17.6	18.0	18.4	18.8	19.3	19.7	20.1	20.6
Total Costs	**3.2**	**15.5**	**17.0**	**21.6**	**24.2**	**30.8**	**34.7**	**37.7**	**39.8**	**41.2**	**42.2**	**43.2**	**44.3**	**45.4**	**46.6**	**47.9**	**49.2**	**50.6**	**52.0**

Stage	Phase 2	Phase 3	Phase 3	FDA	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Terminal value at 2032	Assumed growth rate
Probability	100%	64%	64%	45%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%		
Prob. Adjusted Revenue	0.0	0.0	0.0	1.0	9.7	29.1	40.0	50.8	57.7	61.9	64.5	67.1	69.9	72.8	76.0	79.3	82.9	86.7	90.7		
Prob. Adjusted Total Cost	3.2	9.9	10.9	9.7	9.8	12.5	14.0	15.2	16.1	16.6	17.1	17.5	17.9	18.4	18.8	19.4	19.9	20.4	21.0		0%
Effective tax rate	0%	0%	0%	0%	0%	0%	5%	25%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%		
Prob. Adjusted Profits	(3.2)	(9.9)	(10.9)	(8.7)	(0.1)	16.6	24.7	26.7	27.1	29.4	30.8	32.3	33.8	35.4	37.1	39.0	40.9	43.0	45.3	452.8	
Shares (MM)	32.6	32.6	34.0	35.4	35.4	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	
Per Share	(0.1)	(0.3)	(0.3)	(0.2)	(0.0)	0.4	0.7	0.7	0.7	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2	11.9	
Line 1: Present Value of Probability Adjusted Profits ($MM)	(3.2)	(8.8)	(8.8)	(6.4)	(0.1)	10.1	13.6	13.4	12.3	12.1	11.5	11.0	10.4	9.9	9.4	9.0	8.6	8.2	7.8	78.2	
Line 2: Present Value of Probability Adjusted Profits/Share ($MM)	(0.10)	(0.27)	(0.26)	(0.18)	(0.00)	0.27	0.36	0.35	0.32	0.32	0.30	0.29	0.27	0.26	0.25	0.24	0.23	0.22	0.21	2.06	

Probability-Adjusted NPV- Line 1 ($MM)	**$198.2**
NPV of Prob. Adj. Profits per share - Line 2	**$ 5.13**
Time of Valuation	11/4/14

Sources: Company reports and MLV & Co. estimates.

Exhibit 14

Karyopharm Therapeutics Inc. (KPTI) - Selinexor (for DLBCL) Probability Adjusted Discounted Earnings Valuation ($MM)

Discount Rate	10.0%

Probability of Success	Per Stage
Preclinical	100%
Phase I	100%
Phase II	67%
Phase III	75%
FDA	95%
Market	95%
Cumulative	45%

	4Q14E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Revenue Forecast ($MM)	**0.0**	**0.0**	**0.0**	**0.8**	**18.3**	**73.7**	**170.7**	**236.4**	**290.7**	**315.4**	**332.3**	**349.7**	**368.1**	**387.8**	**408.7**	**431.0**	**454.7**	**480.0**	**507.0**
Milestone Forecast																			

Stage	Phase 2	Phase 3	Phase 3	FDA	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market
COGS	0.0	0.0	0.0	0.1	1.8	7.4	17.1	23.6	29.1	31.5	33.2	35.0	36.8	38.8	40.9	43.1	45.5	48.0	50.7
R&D	2.5	12.4	12.3	11.9	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
SG&A	0.7	3.1	4.7	9.4	12.8	14.6	15.8	16.1	16.5	16.9	17.2	17.6	18.0	18.4	18.8	19.3	19.7	20.1	20.6
Total Costs	**3.2**	**15.5**	**17.0**	**21.4**	**23.6**	**31.0**	**41.8**	**48.8**	**54.6**	**57.4**	**59.5**	**61.6**	**63.8**	**66.2**	**68.7**	**71.4**	**74.2**	**77.1**	**80.3**

Stage	Phase 2	Phase 3	Phase 3	FDA	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Terminal value at 2032	Assumed growth rate
Probability	100%	67%	67%	50%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%		
Prob. Adjusted Revenue	0.0	0.0	0.0	0.4	8.3	33.4	77.4	107.2	131.9	143.0	150.7	158.6	167.0	175.9	185.4	195.5	206.2	217.7	229.9		
Prob. Adjusted Total Cost	3.2	10.4	11.4	10.8	10.7	14.1	19.0	22.1	24.7	26.0	27.0	27.9	28.9	30.0	31.2	32.4	33.6	35.0	36.4		0%
Effective tax rate	0%	0%	0%	0%	0%	0%	5%	25%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%		
Prob. Adjusted Profits	(3.2)	(10.4)	(11.4)	(10.4)	(2.4)	19.4	55.5	63.8	69.6	76.0	80.4	84.9	89.7	94.8	100.2	106.0	112.2	118.8	125.8	1,257.8	
Shares (MM)	32.6	32.6	34.0	35.4	35.4	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	
Per Share	(0.1)	(0.3)	(0.3)	(0.3)	(0.1)	0.5	1.5	1.7	1.8	2.0	2.1	2.2	2.4	2.5	2.6	2.8	3.0	3.1	3.3	33.1	
Line 1: Present Value of Probability Adjusted Profits ($MM)	(3.2)	(9.3)	(9.3)	(7.6)	(1.6)	11.8	30.6	32.0	31.6	31.4	30.1	28.9	27.7	26.6	25.5	24.5	23.5	22.6	21.7	217.3	
Line 2: Present Value of Probability Adjusted Profits/Share ($MM)	(0.10)	(0.28)	(0.27)	(0.22)	(0.05)	0.31	0.81	0.84	0.83	0.83	0.79	0.76	0.73	0.70	0.67	0.65	0.62	0.60	0.57	5.73	

Probability-Adjusted NPV- Line 1 ($MM)	**$554.7**
NPV of Prob. Adj. Profits per share - Line 2	**$ 15**
Time of Valuation	11/4/14

Sources: Company reports and MLV & Co. estimates.

Exhibit 15

Karyopharm Therapeutics Inc. (KPTI) - Selinexor (for Richter's) Probability Adjusted Discounted Earnings Valuation ($MM)

Discount Rate	10.0%

Probability of Success	Per Stage
Preclinical	100%
Phase I	100%
Phase II	74%
Phase III	75%
FDA	95%
Market	95%
Cumulative	50%

	4Q14E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Revenue Forecast ($MM)	**0.0**	**0.0**	**0.0**	**0.1**	**3.5**	**12.9**	**39.6**	**75.8**	**91.5**	**102.5**	**108.5**	**114.2**	**120.3**	**126.8**	**133.8**	**141.2**	**149.0**	**157.4**	**166.3**
Milestone Forecast																			

Stage	Phase 2	Phase 3	Phase 3	FDA	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market
COGS	0.0	0.0	0.0	0.0	0.4	1.3	4.0	7.6	9.2	10.2	10.8	11.4	12.0	12.7	13.4	14.1	14.9	15.7	16.6
R&D	2.5	12.4	12.3	11.9	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
SG&A	0.7	3.1	4.7	9.4	12.8	14.6	15.8	16.1	16.5	16.9	17.2	17.6	18.0	18.4	18.8	19.3	19.7	20.1	20.6
Total Costs	**3.2**	**15.5**	**17.0**	**21.4**	**22.1**	**24.9**	**28.7**	**32.7**	**34.6**	**36.1**	**37.1**	**38.0**	**39.0**	**40.1**	**41.2**	**42.4**	**43.6**	**44.9**	**46.2**

Stage	Phase 2	Phase 3	Phase 3	FDA	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Terminal value at 2032	Assumed growth rate
Probability	100%	74%	74%	56%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%		
Prob. Adjusted Revenue	0.0	0.0	0.0	0.1	1.8	6.5	19.8	38.0	45.8	51.3	54.3	57.2	60.3	63.5	67.0	70.7	74.6	78.8	83.3		
Prob. Adjusted Total Cost	3.2	11.4	12.6	11.9	11.1	12.5	14.4	16.4	17.4	18.1	18.6	19.1	19.6	20.1	20.6	21.2	21.8	22.5	23.1		0%
Effective tax rate	0%	0%	0%	0%	0%	0%	5%	25%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%		
Prob. Adjusted Profits	(3.2)	(11.4)	(12.6)	(11.8)	(9.3)	(6.0)	5.2	16.2	18.5	21.6	23.2	24.8	26.5	28.2	30.1	32.2	34.3	36.6	39.1	391.0	
Shares (MM)	32.6	32.6	34.0	35.4	35.4	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	
Per Share	(0.1)	(0.4)	(0.4)	(0.3)	(0.3)	(0.2)	0.1	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.9	1.0	1.0	10.3	
Line 1: Present Value of Probability Adjusted Profits ($MM)	(3.2)	(10.2)	(10.2)	(8.7)	(6.2)	(3.7)	2.9	8.1	8.4	8.9	8.7	8.4	8.2	7.9	7.7	7.4	7.2	7.0	6.8	67.6	
Line 2: Present Value of Probability Adjusted Profits/Share ($MM)	(0.10)	(0.31)	(0.30)	(0.25)	(0.18)	(0.10)	0.08	0.21	0.22	0.23	0.23	0.22	0.22	0.21	0.20	0.20	0.19	0.18	0.18	1.78	

Probability-Adjusted NPV- Line 1 ($MM)	**$122.8**
NPV of Prob. Adj. Profits per share - Line 2	**$ 3**
Time of Valuation	11/4/14

Sources: Company reports and MLV & Co. estimates.

Exhibit 16

Karyopharm Therapeutics Inc. (KPTI) - Selinexor (for Myeloma) Probability Adjusted Discounted Earnings Valuation ($MM)

Discount Rate	10.0%

Probability of Success	Per Stage
Preclinical	100%
Phase I	100%
Phase II	74%
Phase III	75%
FDA	95%
Market	95%
Cumulative	50%

	4Q14E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Revenue Forecast ($MM)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**1.6**	**24.4**	**99.3**	**245.0**	**336.6**	**412.8**	**453.6**	**478.2**	**502.7**	**528.7**	**556.4**	**585.9**	**617.2**	**650.6**
Milestone Forecast																			

Stage	Phase 2	Phase 3	Phase 3	FDA	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market
COGS	0.0	0.0	0.0	0.0	0.0	0.2	2.4	9.9	24.5	33.7	41.3	45.4	47.8	50.3	52.9	55.6	58.6	61.7	65.1
R&D	2.5	12.4	12.3	11.9	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
SG&A	0.7	3.1	4.7	9.4	12.8	14.6	15.8	16.1	16.5	16.9	17.2	17.6	18.0	18.4	18.8	19.3	19.7	20.1	20.6
Total Costs	**3.2**	**15.5**	**17.0**	**21.4**	**21.8**	**23.8**	**27.2**	**35.1**	**50.0**	**59.5**	**67.5**	**72.0**	**74.8**	**77.7**	**80.7**	**83.9**	**87.3**	**90.8**	**94.6**

Stage	Phase 2	Phase 3	Phase 3	FDA	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Terminal value at 2032	Assumed growth rate
Probability	100%	74%	74%	56%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%		
Prob. Adjusted Revenue	0.0	0.0	0.0	0.0	0.0	0.8	12.2	49.8	122.7	168.6	206.8	227.2	239.5	251.8	264.8	278.7	293.5	309.2	325.9		
Prob. Adjusted Total Cost	3.2	11.4	12.6	11.8	10.9	11.9	13.6	17.6	25.0	29.8	33.8	36.1	37.5	38.9	40.4	42.0	43.7	45.5	47.4		0%
Effective tax rate	0%	0%	0%	0%	0%	0%	5%	25%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%		
Prob. Adjusted Profits	(3.2)	(11.4)	(12.6)	(11.8)	(10.9)	(11.1)	(1.3)	24.1	63.5	90.2	112.4	124.3	131.3	138.4	145.9	153.8	162.3	171.4	181.0	1,810.0	
Shares (MM)	32.6	32.6	34.0	35.4	35.4	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	
Per Share	(0.1)	(0.4)	(0.4)	(0.3)	(0.3)	(0.3)	(0.0)	0.6	1.7	2.4	3.0	3.3	3.5	3.6	3.8	4.1	4.3	4.5	4.8	47.7	
Line 1: Present Value of Probability Adjusted Profits ($MM)	(3.2)	(10.2)	(10.2)	(8.7)	(7.3)	(6.7)	(0.7)	12.1	28.9	37.2	42.1	42.2	40.5	38.8	37.1	35.5	34.0	32.6	31.3	312.7	
Line 2: Present Value of Probability Adjusted Profits/Share ($MM)	(0.10)	(0.31)	(0.30)	(0.25)	(0.21)	(0.18)	(0.02)	0.32	0.76	0.98	1.11	1.11	1.07	1.02	0.98	0.94	0.90	0.86	0.82	8.24	

Probability-Adjusted NPV- Line 1 ($MM)	**$677.9**
NPV of Prob. Adj. Profits per share - Line 2	**$ 18**
Time of Valuation	11/4/14

Sources: Company reports and MLV & Co. estimates.

Exhibit 17

Karyopharm Therapeutics Inc. (KPTI) - Selinexor (for Sarcoma) Probability Adjusted Discounted Earnings Valuation ($MM)

Discount Rate	10.0%

Probability of Success	Per Stage
Preclinical	100%
Phase I	62%
Phase II	60%
Phase III	75%
FDA	95%
Market	95%
Cumulative	25%

	4Q14E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Revenue Forecast ($MM)	**0.0**	**0.0**	**0.0**	**0.0**	**0.3**	**6.2**	**20.8**	**37.7**	**47.8**	**55.0**	**60.6**	**64.7**	**68.1**	**71.5**	**75.2**	**79.1**	**83.2**	**87.6**	**92.3**
Milestone Forecast																			

Stage	Phase 2	Phase 3	Phase 3	FDA	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market
COGS	0.0	0.0	0.0	0.0	0.0	0.6	2.1	3.8	4.8	5.5	6.1	6.5	6.8	7.2	7.5	7.9	8.3	8.8	9.2
R&D	1.3	6.2	6.2	6.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
SG&A	0.4	1.5	2.4	4.7	6.4	7.3	7.9	8.1	8.2	8.4	8.6	8.8	9.0	9.2	9.4	9.6	9.8	10.1	10.3
Total Costs	**1.6**	**7.7**	**8.5**	**10.7**	**10.9**	**12.4**	**14.5**	**16.3**	**17.5**	**18.4**	**19.2**	**19.8**	**20.3**	**20.9**	**21.4**	**22.0**	**22.7**	**23.3**	**24.0**

Stage	Phase 2	Phase 3	Phase 3	FDA	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Terminal value at 2032	Assumed growth rate
Probability	100%	37%	37%	28%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%		
Prob. Adjusted Revenue	0.0	0.0	0.0	0.0	0.1	1.6	5.2	9.5	12.0	13.9	15.2	16.3	17.1	18.0	18.9	19.9	20.9	22.1	23.2		
Prob. Adjusted Total Cost	1.6	2.9	3.2	3.0	2.7	3.1	3.6	4.1	4.4	4.6	4.8	5.0	5.1	5.3	5.4	5.5	5.7	5.9	6.0		0%
Effective tax rate	0%	0%	0%	0%	0%	0%	5%	25%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%		
Prob. Adjusted Profits	(1.6)	(2.9)	(3.2)	(3.0)	(2.7)	(1.6)	1.5	4.0	5.0	6.0	6.8	7.4	7.8	8.3	8.8	9.3	9.9	10.5	11.2	111.7	
Shares (MM)	32.6	32.6	34.0	35.4	35.4	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	
Per Share	(0.0)	(0.1)	(0.1)	(0.1)	(0.1)	(0.0)	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	2.9	
Line 1: Present Value of Probability Adjusted Profits ($MM)	(1.6)	(2.6)	(2.6)	(2.2)	(1.8)	(1.0)	0.8	2.0	2.3	2.5	2.5	2.5	2.4	2.3	2.2	2.2	2.1	2.0	1.9	19.3	
Line 2: Present Value of Probability Adjusted Profits/Share ($MM)	(0.05)	(0.08)	(0.08)	(0.06)	(0.05)	(0.03)	0.02	0.05	0.06	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.51	

Probability-Adjusted NPV- Line 1 ($MM)	**$35.4**
NPV of Prob. Adj. Profits per share - Line 2	**$ 1**
Time of Valuation	11/4/14

Sources: Company reports and MLV & Co. estimates.

Exhibit 18

Karyopharm Therapeutics Inc. (KPTI) - Selinexor (for Ovarian Cancer) Probability Adjusted Discounted Earnings Valuation ($MM)

Discount Rate	10.0%

Probability of Success	Per Stage
Preclinical	100%
Phase I	100%
Phase II	55%
Phase III	60%
FDA	95%
Market	95%
Cumulative	30%

	4Q14E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Revenue Forecast ($MM)	**0.0**	**0.0**	**0.0**	**0.0**	**0.9**	**9.0**	**29.5**	**103.0**	**164.6**	**208.4**	**232.7**	**245.6**	**258.3**	**271.8**	**286.1**	**301.4**	**317.6**	**334.9**	**353.4**
Milestone Forecast																			

Stage	Phase 2	Phase 3	Phase 3	FDA	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market
COGS	0.0	0.0	0.0	0.0	0.1	0.9	3.0	10.3	16.5	20.8	23.3	24.6	25.8	27.2	28.6	30.1	31.8	33.5	35.3
R&D	1.3	6.2	6.2	6.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
SG&A	0.4	1.5	2.4	4.7	6.4	7.3	7.9	8.1	8.2	8.4	8.6	8.8	9.0	9.2	9.4	9.6	9.8	10.1	10.3
Total Costs	**1.6**	**7.7**	**8.5**	**10.7**	**11.0**	**12.7**	**15.3**	**22.9**	**29.2**	**33.8**	**36.4**	**37.9**	**39.3**	**40.9**	**42.5**	**44.3**	**46.1**	**48.1**	**50.1**

Stage	Phase 2	Phase 3	Phase 3	FDA	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Market	Terminal value at 2032	Assumed growth rate
Probability	100%	55%	55%	33%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%		
Prob. Adjusted Revenue	0.0	0.0	0.0	0.0	0.3	2.7	8.8	30.7	49.0	62.1	69.3	73.2	76.9	80.9	85.2	89.8	94.6	99.8	105.2		
Prob. Adjusted Total Cost	1.6	4.3	4.7	3.5	3.3	3.8	4.6	6.8	8.7	10.1	10.8	11.3	11.7	12.2	12.7	13.2	13.7	14.3	14.9		0%
Effective tax rate	0%	0%	0%	0%	0%	0%	5%	25%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%		
Prob. Adjusted Profits	(1.6)	(4.3)	(4.7)	(3.5)	(3.0)	(1.1)	4.0	17.9	26.2	33.8	38.0	40.2	42.4	44.7	47.2	49.8	52.6	55.5	58.7	587.0	
Shares (MM)	32.6	32.6	34.0	35.4	35.4	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	
Per Share	(0.0)	(0.1)	(0.1)	(0.1)	(0.1)	(0.0)	0.1	0.5	0.7	0.9	1.0	1.1	1.1	1.2	1.2	1.3	1.4	1.5	1.5	15.5	
Line 1: Present Value of Probability Adjusted Profits ($MM)	(1.6)	(3.8)	(3.8)	(2.6)	(2.0)	(0.7)	2.2	9.0	11.9	13.9	14.2	13.7	13.1	12.5	12.0	11.5	11.0	10.6	10.1	101.4	
Line 2: Present Value of Probability Adjusted Profits/Share ($MM)	(0.05)	(0.12)	(0.11)	(0.07)	(0.06)	(0.02)	0.06	0.24	0.31	0.37	0.37	0.36	0.34	0.33	0.32	0.30	0.29	0.28	0.27	2.67	

Probability-Adjusted NPV- Line 1 ($MM)	**$232.7**
NPV of Prob. Adj. Profits per share - Line 2	**$ 6**
Time of Valuation	11/4/14

Sources: Company reports and MLV & Co. estimates.

Exhibit 19

Karyopharm Therapeutics Inc. (KPTI)	2014E					2015E					
Income Statement ($ MM)	**1QA**	**2QA**	**3QE**	**4QE**	**2014E**	**1QE**	**2QE**	**3QE**	**4QE**	**2015E**	**2016E**
Contract and grant revenue	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Selinexor (KPT-330) AML revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Selinexor (KPT-330) Richter's revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Selinexor (KPT-330) DLBCL revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Selinexor (KPT-330) MM revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Selinexor (KPT-330) Sarcoma revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Selinexor (KPT-330) Ovarian revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Verdinexor (KPT-335) revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KPT-350 revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total revenue	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Cost of goods sold	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross profit	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
R&D	11.0	13.2	10.9	12.6	47.6	15.0	15.0	15.0	16.9	61.9	61.6
G&A	2.9	3.3	3.5	3.6	13.3	3.7	3.8	3.9	4.0	15.4	23.5
Total operating expenses	13.9	16.5	14.4	16.2	60.9	18.7	18.8	18.9	20.9	77.3	85.1
Operating Profit	(13.7)	(16.4)	(14.4)	(16.2)	(60.7)	(18.7)	(18.8)	(18.9)	(20.9)	(77.3)	(85.1)
Other income (expense)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pre-tax profit	(13.7)	(16.4)	(14.4)	(16.2)	(60.7)	(18.7)	(18.8)	(18.9)	(20.9)	(77.3)	(85.1)
Effective Tax Rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Income	(13.7)	(16.4)	(14.4)	(16.2)	(60.7)	(18.7)	(18.8)	(18.9)	(20.9)	(77.3)	(85.1)
EPS, diluted	**$ (0.46)**	**$ (0.55)**	**$ (0.46)**	**$ (0.50)**	**$ (1.95)**	**$ (0.57)**	**$ (0.58)**	**$ (0.58)**	**$ (0.64)**	**$ (2.37)**	**$ (2.51)**
Weighted average diluted shares (MM)	29.6	29.7	31.1	32.6	31.1	32.6	32.6	32.6	32.6	32.6	34.0
Gross margin	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Operating margin	*NM*	*NM*	*NM*	*NM*	*NM*	*NM*	*NM*	*NM*	*NM*	*NM*	*NM*

Source: Company reports and MLV & Co. estimates.

Exhibit 20

Karyopharm Therapeutics Inc. (KPTI)	2014E					2015E					
Cash Flow ($ MM)	1QA	2QA	3QE	4QE	2014E	1QE	2QE	3QE	4QE	2015E	2016E
Operating profit	(13.7)	(16.4)	(14.4)	(16.2)	(60.7)	(18.7)	(18.8)	(18.9)	(20.9)	(77.3)	(85.1)
D&A	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.4
Stock-based compensation expense	2.8	3.9	4.0	4.0	14.7	4.0	4.0	4.0	4.0	16.0	16.0
EBITDA	(10.8)	(12.5)	(10.4)	(12.1)	(45.8)	(14.6)	(14.7)	(14.8)	(16.8)	(61.0)	(68.7)
Cash interest expense	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash tax expense	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accounts receivable	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Inventory	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prepaid expense	(0.7)	(0.3)	0.3	(0.3)	(1.0)	(0.5)	(0.0)	(0.0)	(0.4)	(0.9)	(0.1)
Accounts payable	1.5	0.2	(0.2)	0.4	1.8	0.6	0.0	0.0	0.4	1.1	(0.1)
Accrued expense & other	0.4	0.2	(0.3)	0.2	0.5	0.3	0.0	0.0	0.2	0.6	0.0
Deferred revenue	(0.0)	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Other	(0.9)	0.3	0.0	0.0	(0.7)	0.0	0.0	0.0	0.0	0.0	0.0
Cash from operations	(10.6)	(11.9)	(10.6)	(11.8)	(44.9)	(14.2)	(14.7)	(14.8)	(16.5)	(60.2)	(68.9)
Capital expenditures	(0.1)	(0.3)	(0.2)	(0.2)	(0.8)	(0.2)	(0.2)	(0.2)	(0.2)	(0.8)	(1.5)
Free cash flow	(10.7)	(12.2)	(10.8)	(12.0)	(45.7)	(14.4)	(14.9)	(15.0)	(16.7)	(61.0)	(70.4)
Free cash flow per share	(0.36)	(0.41)	(0.35)	(0.37)	(1.47)	(0.44)	(0.46)	(0.46)	(0.51)	(1.87)	(2.07)
Cash from operations	(10.6)	(11.9)	(10.6)	(11.8)	(44.9)	(14.2)	(14.7)	(14.8)	(16.5)	(60.2)	(68.9)
Cash from investing	(0.5)	(0.3)	(0.2)	(0.2)	(1.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.8)	(1.5)
Cash from financing	0.0	(0.4)	112.9	0.0	112.5	0.0	0.0	0.0	0.0	0.0	111.6
Net change in cash	(11.1)	(12.6)	102.1	(12.0)	66.4	(14.4)	(14.9)	(15.0)	(16.7)	(61.0)	41.2
Cash, beginning	156.0	144.9	132.3	234.4	156.0	222.4	207.9	193.0	178.0	222.4	161.3
Cash, ending	144.9	132.3	234.4	222.4	222.4	207.9	193.0	178.0	161.3	161.3	202.6

Source: Company reports and MLV & Co. estimates.

Exhibit 21

Karyopharm Therapeutics Inc. (KPTI)	2014E					2015E					
Balance Sheet ($ MM)	**1QA**	**2QA**	**3QE**	**4QE**	**2014E**	**1QE**	**2QE**	**3QE**	**4QE**	**2015E**	**2016E**
Cash	144.9	132.3	234.4	222.4	222.4	207.9	193.0	178.0	161.3	161.3	202.6
Accounts receivable	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Inventory	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prepaid expense & other	2.7	3.0	2.7	3.0	3.0	3.5	3.5	3.5	3.9	3.9	3.9
Current assets	147.6	135.3	237.1	225.4	225.4	211.4	196.5	181.5	165.2	165.2	206.5
PP&E	0.3	0.6	0.8	0.9	0.9	1.0	1.2	1.3	1.4	1.4	2.5
Deposits and other assets	1.0	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Restricted Cash	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Total Assets	**149.3**	**137.7**	**239.6**	**228.1**	**228.1**	**214.2**	**199.5**	**184.6**	**168.4**	**168.4**	**210.8**
Accounts payable	3.3	3.5	3.2	3.6	3.6	4.2	4.2	4.2	4.7	4.7	4.5
Accrued expense	1.6	2.0	1.7	1.9	1.9	2.2	2.2	2.2	2.4	2.4	2.5
Deferred revenue	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deferred rent	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Current liabilities	5.0	5.6	5.1	5.7	5.7	6.5	6.6	6.6	7.3	7.3	7.2
Deferred rent, long-term	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other long-term liabilities	0.2	0.2	4.2	8.2	8.2	12.2	16.2	20.2	24.2	24.2	40.2
Total Liabilities	**5.2**	**6.0**	**9.4**	**14.0**	**14.0**	**18.9**	**22.9**	**27.0**	**31.6**	**31.6**	**47.5**
Shareholder's Equity	**144.1**	**131.7**	**230.2**	**214.0**	**214.0**	**195.3**	**176.5**	**157.6**	**136.8**	**136.8**	**163.3**
Liabilities and Shareholder's Equity	**149.3**	**137.7**	**239.6**	**228.1**	**228.1**	**214.2**	**199.5**	**184.6**	**168.4**	**168.4**	**210.8**

Source: Company reports and MLV & Co. estimates.

Exhibit 22

KPTI Alternate Valuation Methodology: Discounted Cash Flow Analysis	4Q:14E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	Terminal Value
Cash from operations	(11.8)	(60.2)	(68.9)	(87.8)	(68.4)	(4.9)	113.2	223.3	365.8	564.6	728.9	808.4	780.9	744.3	759.2	872.7	999.6	1,081.0	1,070.1	
Capital expenditure	(0.2)	(0.8)	(1.5)	(2.0)	(2.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	
Free cash flow ($MM)	**(12.0)**	**(61.0)**	**(70.4)**	**(89.8)**	**(70.4)**	**(5.9)**	**112.2**	**222.3**	**364.8**	**563.6**	**727.9**	**807.4**	**779.9**	**743.3**	**758.2**	**871.7**	**998.6**	**1,080.0**	**1,069.1**	**7,083.1**
Time period from now (years)	0.2	1.2	2.2	3.2	4.2	5.2	6.2	7.2	8.2	9.2	10.2	11.2	12.2	13.2	14.2	15.2	16.2	17.2	18.2	18.2
Annualized hurdle rate	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%
Periodic hurdle rate	2.36%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%	15.1%
Present value of cash flow stream ($MM)	(12.0)	(51.9)	(52.0)	(57.6)	(39.2)	(2.9)	47.2	81.3	115.9	155.6	174.6	168.2	141.2	117.0	103.6	103.5	103.0	96.8	83.3	551.7
NPV of free cash flow to the firm 4Q:14-2032E	1,275.7																			
Present value of terminal value	551.7																			
Less debt	0.0																			
Plus cash (year-end 2014)	222.4																			
Adjusted NPV of Equity	**2,049.7**																			
Shares at YE 2032	38.0																			
Discounted Cash Flow Per Share	**54.00**																			

Terminal Value Worksheet	
2032E FCF ($MM)	$1,069.1
Annual hurdle rate (k)	15.1%
Terminal growth rate (g)	0%
TV = '32E FCF/(k-g)	7,083.1

Source: Company reports and MLV & Co. estimates.

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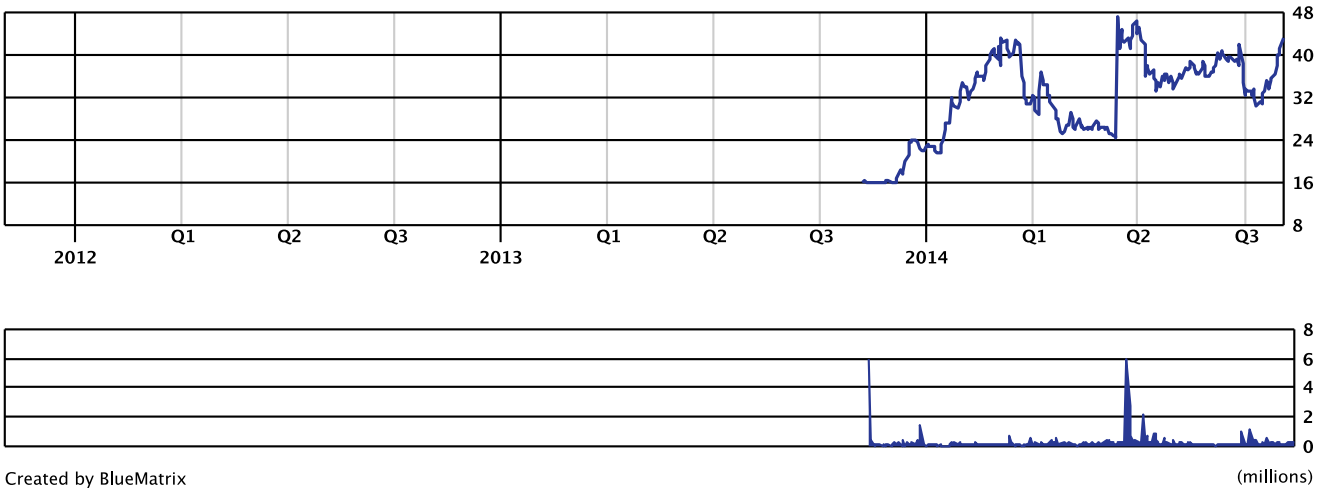
Karyopharm Therapeutics Inc. (KPTI): Share Price (in USD) and Volume History as of 11-03-2014



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