Karyopharm® Therapeutics

Targeting Disease at the Nuclear Pore

Corporate Presentation

September 2019

Forward-looking Statements and Other Important Information

This presentation contains forward-looking statements within the meaning of the “safe harbor” provisions of The Private Securities Litigation Reform Act of 1995. Such forward-looking statements include those regarding the therapeutic potential of and potential clinical development plans and commercialization for Karyopharm’s drug candidates, including the timing of initiation of certain trials, of the reporting of data from such trials, of the submissions to regulatory authorities and of potential commercial launches, the potential availability of accelerated approval pathways, the potential size of the markets for multiple myeloma drugs and multiple myeloma drugs for treatment of patients with relapsed multiple myeloma and Karyopharm’s strategic and financial plans and expectations as well as financial projections for Karyopharm. Such statements are subject to numerous important factors, risks and uncertainties that may cause actual events or results to differ materially from Karyopharm’s current expectations. For example, there can be no guarantee that regulators will agree that selinexor qualifies for conditional approval in the E.U. as a result of the data from the STORM study in patients with penta-refractory myeloma or accelerated approval in the U.S. based on the SADAL study in patients with relapsed/refractory DLBCL or that any of Karyopharm’s drug candidates, including selinexor and eltanexor (KPT-8602), Karyopharm’s second generation SINE compound, or KPT-9274, Karyopharm’s first-in-class oral dual inhibitor of PAK4 and NAMPT, or any other drug candidate Karyopharm is developing, will successfully complete necessary preclinical and clinical development phases or that development of any of Karyopharm’s drug candidates will continue. Further, there can be no guarantee that any positive developments in Karyopharm’s drug candidate portfolio will result in stock price appreciation. In addition, even if Karyopharm receives marketing approval for selinexor or another drug candidate, there can be no assurance that Karyopharm will be able to successfully commercialize that drug candidate. Management’s expectations and, therefore, any forward-looking statements in this presentation could also be affected by risks and uncertainties relating to a number of other factors, many of which are beyond Karyopharm’s control, including the following: the timing and costs involved in commercializing XPOVIO or any of Karyopharm’s drug candidates that receive regulatory approval; the ability to retain regulatory approval of XPOVIO or any of Karyopharm’s drug candidates that receive regulatory approval; Karyopharm’s results of clinical trials and preclinical studies, including subsequent analysis of existing data and new data received from ongoing and future studies; the content and timing of decisions made by the FDA and other regulatory authorities, investigational review boards at clinical trial sites and publication review bodies, including with respect to the need for additional clinical studies; the ability of Karyopharm or its third party collaborators or successors in interest to fully perform their respective obligations under the applicable agreement and the potential future financial implications of such agreement; unplanned cash requirements and expenditures; development of drug candidates by Karyopharm’s competitors for diseases for which Karyopharm is currently developing its drug candidates; that the markets for multiple myeloma drugs will grow as predicted; and Karyopharm’s ability to obtain, maintain and enforce patent and other intellectual property protection for any drug candidates it is developing. These and other risks are described under the caption "Risk Factors" in Karyopharm's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, which was filed with the Securities and Exchange Commission (SEC) on August 7, 2019, and in other filings that Karyopharm may make with the SEC in the future. Any forward-looking statements contained in this presentation are for informational purposes only and speak only as of the date hereof. Other than as is required by law, Karyopharm expressly disclaims any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise. Karyopharm’s website is http://www.karyopharm.com. Karyopharm regularly uses its website to post information regarding its business, drug development programs and governance. Karyopharm encourages investors to use www.karyopharm.com, particularly the information in the section entitled “Investors,” as a source of information about Karyopharm. References to www.karyopharm.com in this presentation are not intended to, nor shall they be deemed to, incorporate information on www.karyopharm.com into this presentation by reference. Unless otherwise noted, this presentation contains data that are interim and unaudited based on site reports. In addition, data included in this presentation have not been updated and are as of the cutoff date for the applicable medical conference presentation. Other than the accelerated approval of XPOVIO, selinexor, Eltanexor, KPT-9274 and verdinexor are investigational drugs that have not been approved by the FDA or any other regulatory agency, and the safety and efficacy of these drugs has not been established by any agency.

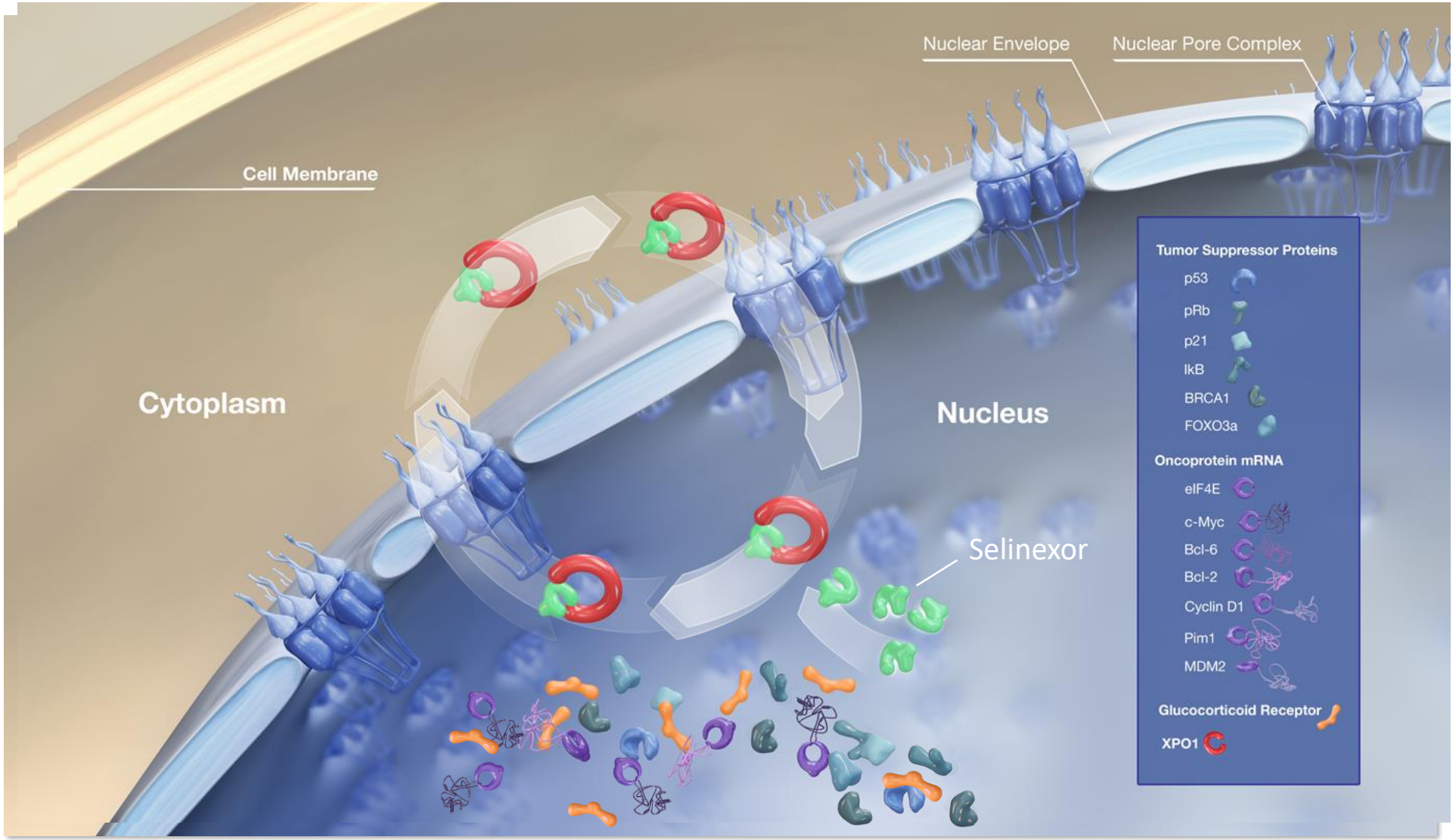
Karyopharm at a Glance

- Founded 10 years ago by team of highly successful cancer drug developers; Initial public offering in 2013
- Novel technology approach with potential for broad clinical applicability
  - Industry leader in targeting nuclear export dysregulation as a mechanism to treat cancer
- First drug, XPOVIO™ (selinexor) received accelerated approval from the FDA in July 2019
- XPOVIO is a first-in-class, oral Selective Inhibitor of Nuclear Export (SINE) compound
  - Available in the U.S. for patients with heavily pretreated relapsed refractory multiple myeloma
  - MAA submitted for Europe in January 2019 with decision expected by end of 2019 or early 2020
  - 2nd NDA / MAA in relapsed or refractory DLBCL is expected in between Q4 2019 and Q1 2020
- Ongoing clinical development for selinexor and next-generation programs in earlier lines of treatment, in combination trials, and in additional tumor types across both hematologic and solid tumor malignancies
- All programs developed in-house with patent protection on lead compound to 2032+
- Numerous data read-outs and potential key milestones expected over the next 12-24 months

XPOVIO/SINE Mechanism of Action: Inhibition of XPO1[1-4]

Inhibition of XPO1 impacts tumor cells via 3 core mechanisms

1. Increases nuclear levels and activation of tumor suppressor proteins
2. Traps oncoprotein mRNA in the nucleus leading to reduced oncoprotein levels
3. Retains activated glucocorticoid receptor in the nucleus



[1] Gupta A, et al. Therapeutic targeting of nuclear export inhibition in lung cancer. J Thorac Oncol. 2017;12(9):1446-1450. [2] Sun Q, et al. Inhibiting cancer cell hallmark features through nuclear export inhibition. Signal Transduct Target Ther. 2016;1:16010.
[3] Gandhi UH, et al. Clinical implications of targeting XPO1-mediated nuclear export in multiple myeloma. Clin Lymphoma Myeloma Leuk. 2018;18(5):335-345. [4] Gravina GL, et al. Nucleo-cytoplasmic transport as a therapeutic target of cancer. J Hematol Oncol. 2014;7:85

XPOVIO™ (selinexor) Received Accelerated Approval by the FDA in July 2019

XPOVIO is indicated in combination with dexamethasone for the treatment of adult patients with relapsed or refractory multiple myeloma (RRMM) who have received at least 4 prior therapies and whose disease is refractory to at least 2 proteasome inhibitors (PI), at least 2 immunomodulatory agents (IMiD), and an anti-CD38 monoclonal antibody (mAb)[1]

This indication is approved under accelerated approval based on response rate. Continued approval for this indication may be contingent upon verification and description of clinical benefit in a confirmatory trial. The ongoing, randomized Phase 3 BOSTON study evaluating selinexor in combination with Velcade® (bortezomib) and low-dose dexamethasone will serve as the confirmatory trial.

- XPOVIO is the **first** and **only** nuclear export inhibitor approved by the FDA
- XPOVIO is the **first** and **only** prescription medicine approved for patients whose multiple myeloma is refractory to proteasome inhibitors, immunomodulatory agents, and an anti-CD38 monoclonal antibody

Full Prescribing Information and Medication Guide are available at www.XPOVIO.com

[1]XPOVIO Prescribing Information

Safety Highlights from the XPOVIO Prescribing Information[1]

- No Black Box Warnings
- No Contraindications
- Patient Medication Guide
- Monitoring Instructions and Recommended Concomitant Treatments
  - Monitor complete blood count (CBC), standard blood chemistry, and body weight at baseline and during treatment as clinically indicated. Monitor more frequently during the first two cycles of treatment
  - Patients are advised to maintain adequate fluid and caloric intake throughout treatment. IV hydration should be considered for patients at risk of dehydration
  - Patients receiving XPOVIO should be provided prophylactic concomitant treatment with a 5-HT3 antagonist and/or other anti-nausea agents prior to and during treatment with XPOVIO
  - Recommended XPOVIO dosage reductions and dosage modifications for adverse reactions are included in the Prescribing Information
- Warnings and Precautions
  - Thrombocytopenia
  - Neutropenia
  - Gastrointestinal Toxicity
  - Hyponatremia
  - Infections
  - Neurological Toxicity
  - Embryo-Fetal Toxicity

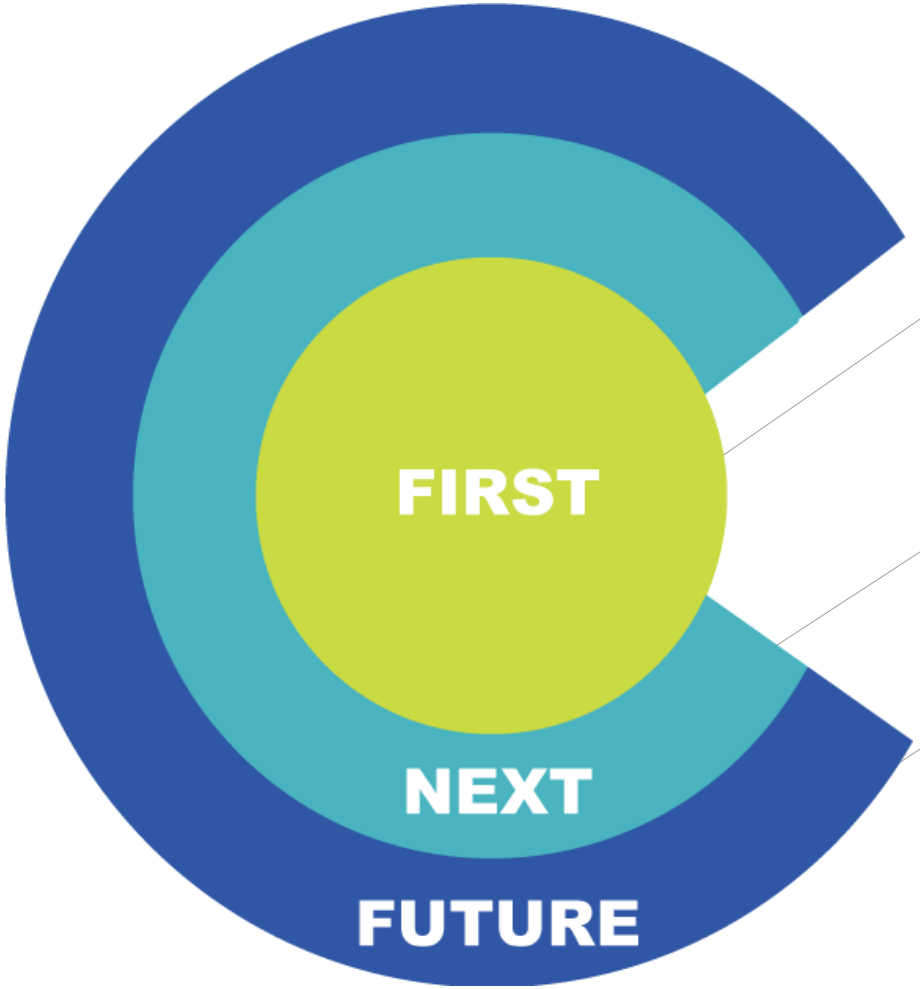
Full Prescribing Information and Medication Guide are available at www.XPOVIO.com

[1]XPOVIO Prescribing Information

XPOVIO (Selinexor) Clinical Data Overview

Multiple Myeloma
Diffuse Large-B Cell Lymphoma (DLBCL)

Planned XPOVIO (selinexor) Development Strategy in Multiple Myeloma



Phase 2b STORM study[1] addressing patients with heavily pretreated relapsed refractory multiple myeloma

- Disease refractory to PIs, IMiDs and Darzalex®
- Highest unmet medical need in multiple myeloma

Pivotal Phase 3 BOSTON study addressing patients with relapsed or refractory disease following 1-3 prior lines of therapy

- Selinexor combined with once-weekly Velcade® and low-dose dexamethasone

Phase 1b/2 STOMP as a potential backbone therapy in combination with standard approved therapies

- Selinexor and low-dose dexamethasone combined with Revlimid®, Pomalyst®, Velcade®, Kyprolis® or Darzalex®
- Future Phase 2/3 studies in combination for labeling

[1] The accelerated approval of XPOVIO was based upon the efficacy and safety in a prespecified subgroup analysis of the 83 patients in STORM whose disease was refractory to bortezomib, carfilzomib, lenalidomide, pomalidomide, and daratumumab, as the benefit-risk ratio appeared to be greater in this more heavily pretreated population than in the overall trial population

STORM Study: Patients Studied in Part 2 of STORM Study Had Highly Refractory Disease and Included Patients With Significant Co-Morbidities

Key Patient Characteristics[1,2] (n=83)	
Refractory to all five of the standard of care myeloma drugs: bortezomib, carfilzomib, lenalidomide, pomalidomide, and daratumumab	100%
Refractory to 2 PIs, 2 IMIDs, and daratumumab	100%
Prior treatment regimens, median (range)	8 (4-18)
High-risk Cytogenetics (Includes any of del(17p)/p53, t(14; 16), t(4; 14), 1q21)	57%

Broad Enrollment Criteria

- No upper age limit (included patients > 75 years old)
- Moderate-to-severe renal dysfunction
- Hematopoietic function with up to Grade 2 cytopenia
  - ANC ≥ 1000/mm^3
  - Hemoglobin ≥ 8.5g/dL
  - Platelets ≥ 75,000/mm^3 or ≥ 50,000/mm^3 if 50% marrow plasmacytosis
- Permitted prior infections, thromboembolism, heart disease, and concomitant medications

STORM study was a single-arm clinical trial in which patients received oral XPOVIO 80 mg and dexamethasone 20 mg, twice weekly

[1]XPOVIO Prescribing Information. [2] The accelerated approval of XPOVIO was based upon the efficacy and safety in a prespecified subgroup analysis of the 83 patients whose disease was refractory to bortezomib, carfilzomib, lenalidomide, pomalidomide, and daratumumab, as the benefit-risk ratio appeared to be greater in this more heavily pretreated population than in the overall trial population.

Overview of Efficacy Data for Accelerated Approval (n=83)

Key Efficacy Data in Patient Population Supporting Approval (n=83)[1]

25.3%

Overall Response Rate (ORR)

INCLUDING:

1 Stringent complete response

0 Complete responses

4 Very good partial responses

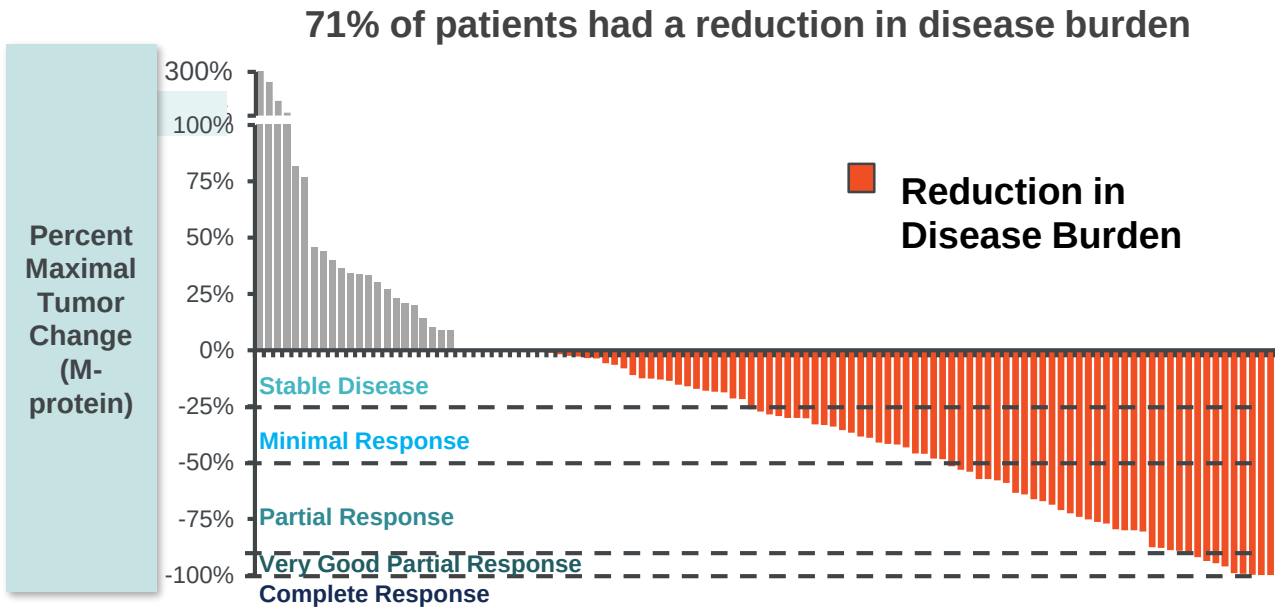
16 Partial responses

- Median time to response: **4** weeks
- Median duration of response: **3.8** months

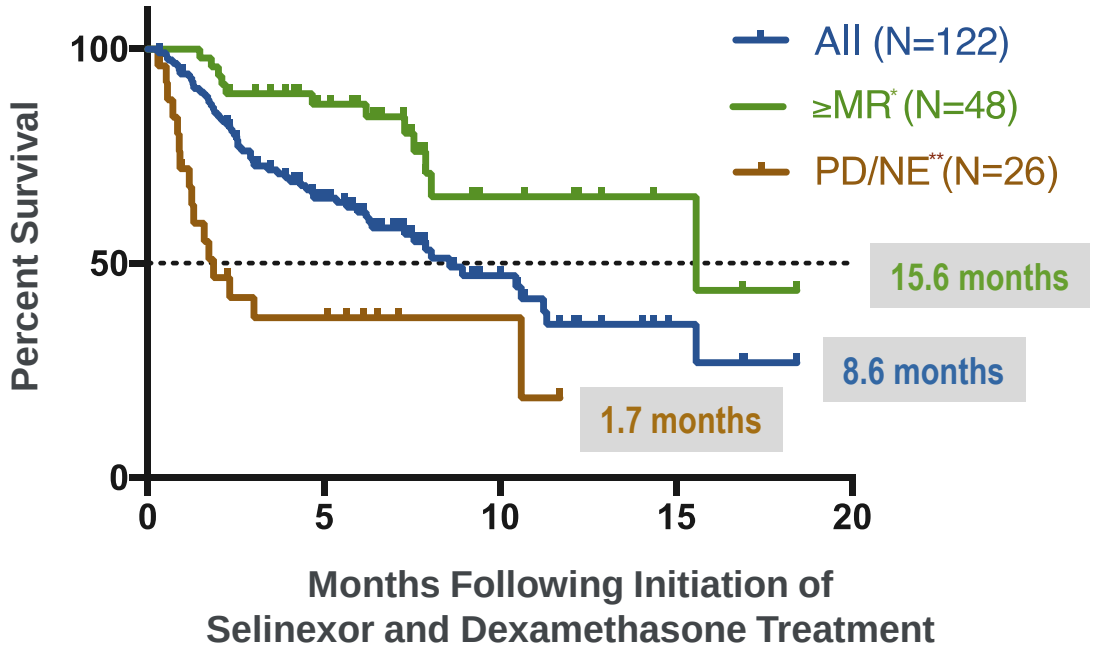
[1] XPOVIO Prescribing Information

Efficacy Data from Part 2 of STORM Presented at ASH 2018 Further Supports Ongoing Randomized Study in RRMM (n=122)[1]

Change in M-Protein Levels[2]



Overall Survival by Group[3]



* ≥MR = Patients had a minor response or better; at least a 25% decrease in M protein
** PD/NE = Patients had progressive disease or disease not evaluable

[1] The accelerated approval of XPOVIO was based upon the efficacy and safety in a prespecified subgroup analysis of the 83 patients whose disease was refractory to bortezomib, carfilzomib, lenalidomide, pomalidomide, and daratumumab, as the benefit-risk ratio appeared to be greater in this more heavily pretreated population than in the overall trial population. [2] Selienxor ODAC Presentation, February 2019. [3] Chari A, et al. ASH 2018 Abstract 598.

Overview of Safety Data from STORM

Patients who Received XPOVIO 80 mg in Combination with Dexamethasone 20 mg on Days 1 and 3 of Every Week[1] (n=202)

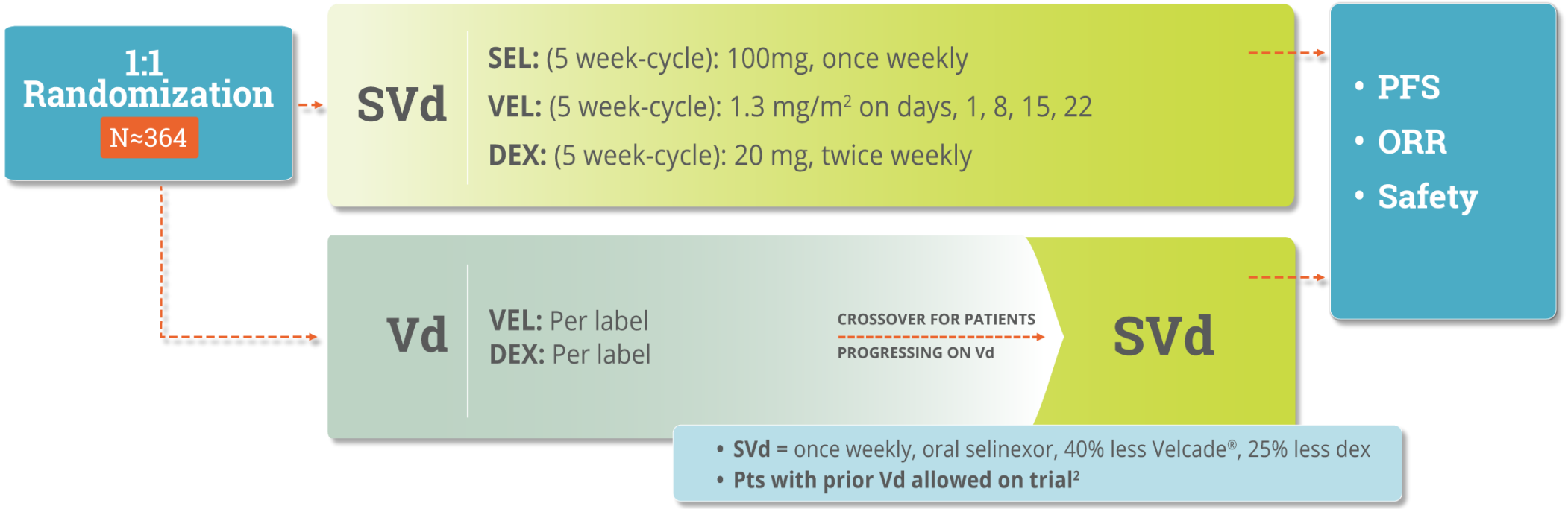
- The most common adverse reactions (incidence ≥20%) were thrombocytopenia, fatigue, nausea, anemia, decreased appetite, decreased weight, diarrhea, vomiting, hyponatremia, neutropenia, leukopenia, constipation, dyspnea, and upper respiratory tract infections.
- The treatment discontinuation rate due to adverse reactions was 27%
- 53% of patients had a reduction in the XPOVIO dosage and 65.3% of patients had the dosage of XPOVIO interrupted
  - The most frequent adverse reactions requiring permanent discontinuation in 4% or greater of patients who received XPOVIO included fatigue, nausea, and thrombocytopenia
- The rate of fatal adverse reactions was 8.9%

Full Prescribing Information and Medication Guide will be available at www.XPOVIO.com

[1] XPOVIO Prescribing Information

BOSTON[1]: A Phase 3 Study as 2nd Line+ Treatment in Myeloma

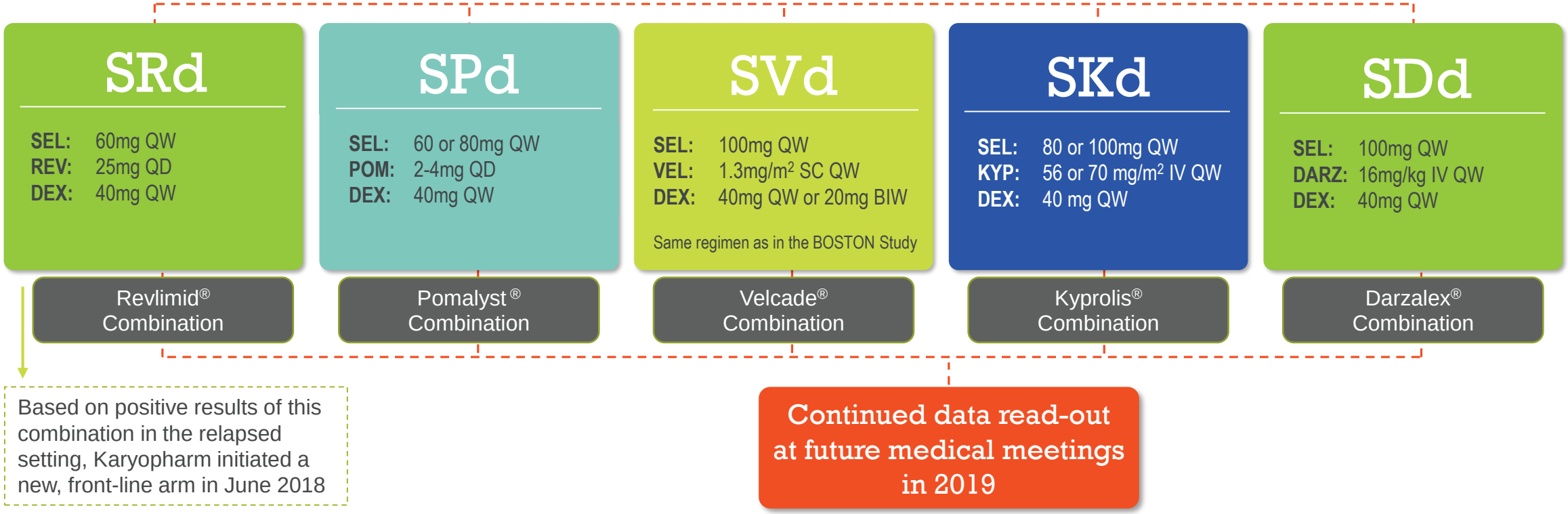
Top-line data expected at the end of 2019 or into early 2020[3]



Ongoing randomized, open-label clinical trial evaluating ***once weekly*** selinexor and Velcade® (bortezomib) plus low-dose dex versus standard ***twice-weekly*** Velcade® plus low-dose dex in patients with relapsed or refractory MM, who have had 1-3 prior lines of therapy

[1] **Bo**rtezomib, **S**elinexor and dexame**t**has**one** [2] Pts must have achieved ≥PR, and completed proteasome inhibitor therapy at least 6 months prior. [3] Pending PFS events

STOMP[1]: A Phase 1b/2 Study in Myeloma



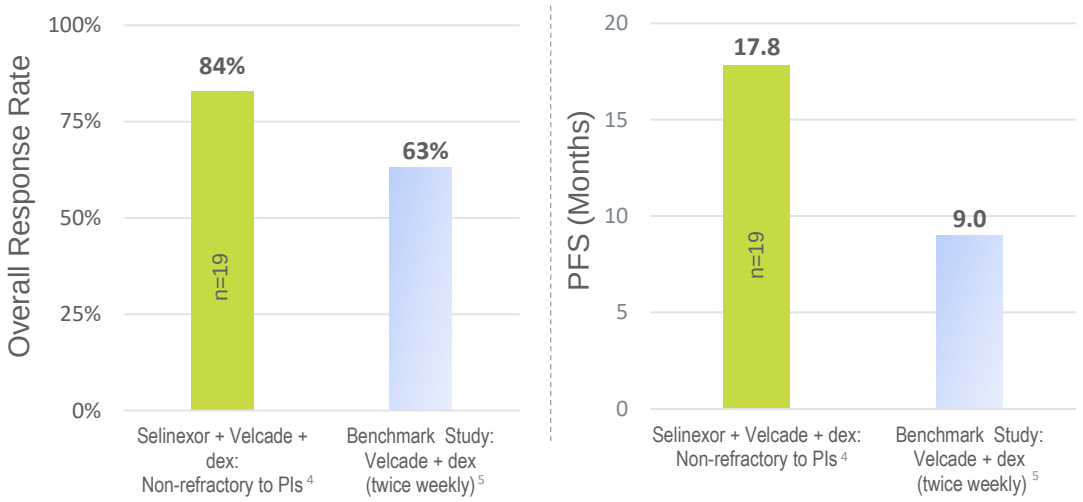
Ongoing multi-arm clinical trial evaluating selinexor and low-dose dex in combination with several currently marketed "backbone" therapies[2] in patients with relapsed or refractory MM

[1] **S**elinexor and Backbone **T**reatments **o**f Multiple **M**yeloma **P**atients; dosing regimens represent recommended Phase 2 dose (RP2D) in RRMM for SRd, SVd and SDd. RP2D has not been determined for other study arms.
[2] Revlimid®, Pomalyst®, Velcade®, Kyprolis® or Darzalex®

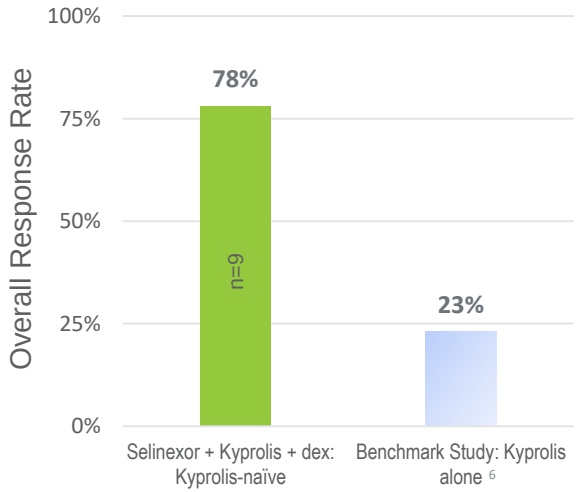
STOMP[1]: A Phase 1b/2 Study in Myeloma

In combination with a proteasome inhibitor

Selinexor + Velcade® + dex (SVd)[2]
(n=19 "BOSTON" Type Patients)



Selinexor + Kyprolis® + dex (SDd)[3]
(n=9 Median of 4 prior regimens)



Safety:

- Predictable and manageable tolerability profile; results consistent with those reported from other selinexor studies
- Most common Grade 1/2 AEs were constitutional symptoms (e.g. nausea, fatigue, anorexia)
- Most common Grade 3/4 AEs were cytopenias (e.g. thrombocytopenia, neutropenia, anemia)
- In the selinexor + Velcade+ dex arm (SVd), peripheral neuropathy across all patients was Grade 1/2 and limited to six patients (14%)[7]

Provides strong rationale for further clinical investigation of selinexor in combination with standard, approved therapies[8]

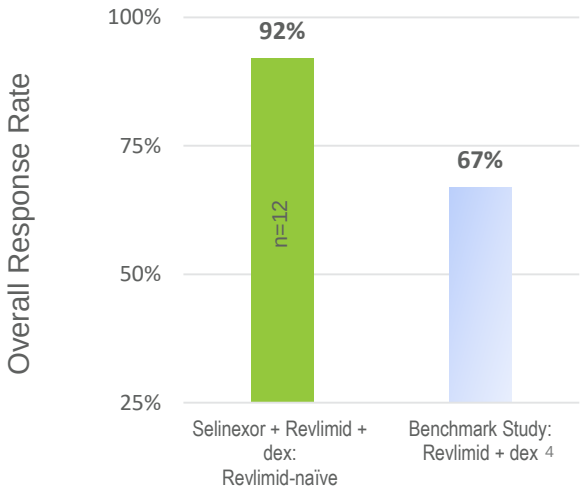
Note: The STOMP study does not include any arms studying current myeloma backbone therapies without the combination of selinexor. The purpose of displaying the "Benchmark" data above for Velcade and Darzalex is to highlight that the clinical results from STOMP reported to date strongly support ongoing / additional clinical investigation of selinexor in combination regimens

[1] **S**elinexor and Backbone **T**reatments **o**f Multiple **M**yeloma **P**atients. [2] Bahlis NJ, et al. Blood 2018. [3] Gasparetto C, et al. EHA 2019. Abstract S1606. [4] Patient population eligible for Phase 3 BOSTON study. [5] Dimopoulos MA et al., Lancet 2016. [6] Kyprolis Package Insert; Study PX-171-003 A1. [7] Five of six had prior Velcade exposure. [8] Revlimid®, Pomalyst®, Velcade®, Kyprolis® or Darzalex®.

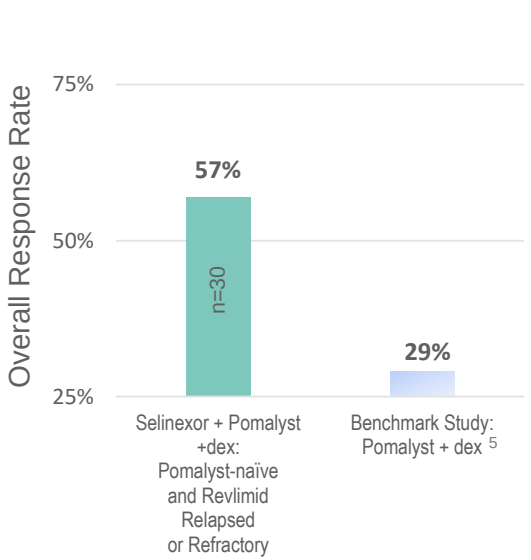
STOMP[1]: A Phase 1b/2 Study in Myeloma

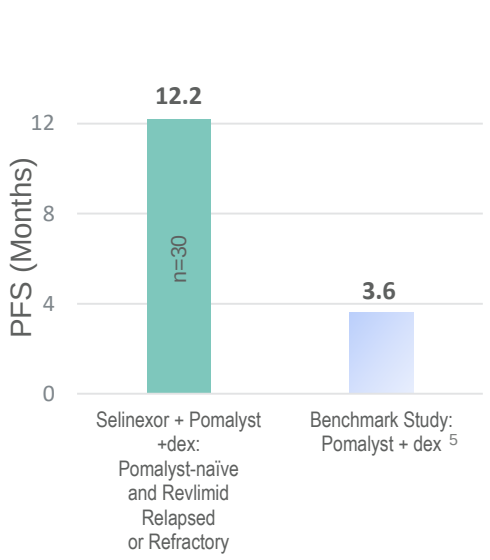
In combination with immunomodulatory drugs

Selinexor + Revlimid® + dex (SRd)[2]
(n=16 ≥ 2nd Line)



Selinexor + Pomalyst® + dex (SPd)[3]
(n=45)





Safety:

- Predictable and manageable tolerability profile; results consistent with those reported from other selinexor studies
- Most common Grade 1/2 AEs were constitutional events (e.g. nausea, fatigue, anorexia)
- Most common Grade 3/4 AEs were cytopenias (e.g. thrombocytopenia, neutropenia, anemia)
- **Exploring frontline setting:** Initiated new ***all oral*** arm evaluating selinexor + Revlimid® + dex in newly diagnosed patients

Provides strong rationale for further clinical investigation of selinexor in combination with standard, approved therapies[6]

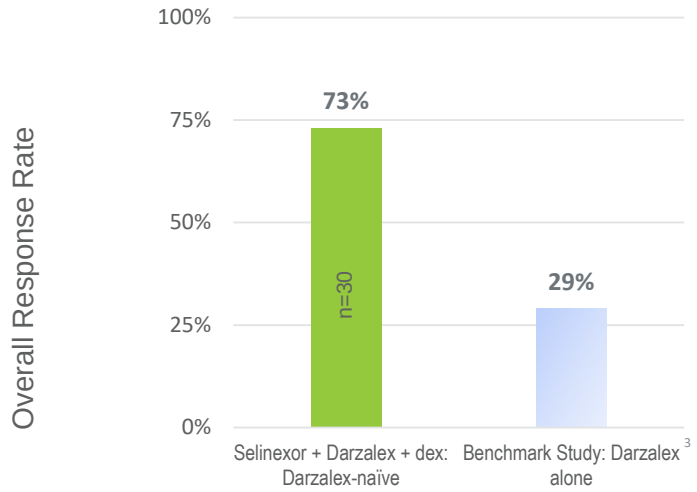
Note: The STOMP study does not include any arms studying current myeloma backbone therapies without the combination of selinexor. The purpose of displaying the "Benchmark" data above for Revlimid and Pomalyst is to highlight that the clinical results from STOMP reported to date strongly support ongoing / additional clinical investigation of selinexor in combination regimens

[1] Selinexor and Backbone Treatments of Multiple Myeloma Patients. [2] White D, et al. ASH 2017. Abstract 1861. [3] Chen C, et al. EHA 2019. Abstract 3199. [4] Stewart et al. NEJM 2015. [5] Pomalyst Package Insert. [6] Revlimid®, Pomalyst®, Velcade®, Kyprolis® or Darzalex®.

STOMP[1]: A Phase 1b/2 Study in Myeloma

In combination with an anti-CD38 mAb

Selinexor + Darzalex® + dex (SDd)[2]
(n=32 Most Triple/Quad Refractory)



Safety:

- Predictable and manageable tolerability profile; results consistent with those reported from other selinexor studies
- Most common Grade 1/2 AEs were constitutional symptoms (e.g. nausea, fatigue, anorexia)
- Most common Grade 3/4 AEs were cytopenias (e.g. thrombocytopenia, neutropenia, anemia)

Provides strong rationale for further clinical investigation of selinexor in combination with standard, approved therapies[4]

Note: The STOMP study does not include any arms studying current myeloma backbone therapies without the combination of selinexor. The purpose of displaying the "Benchmark" data above for Darzalex is to highlight that the clinical results from STOMP reported to date strongly support ongoing / additional clinical investigation of selinexor in combination regimens

[1] **S**elinexor and Backbone **T**reatments **o**f Multiple **M**yeloma **P**atients. [2] Gasparetto C, et al. EHA 2019. Abstract S1606. [3] Lonial et al., Lancet 2016.
[4] Revlimid®, Pomalyst®, Velcade®, Kyprolis® or Darzalex®.

SADAL[1]: A Phase 2b Study In DLBCL

- ***Enrollment completed and top-line data reported at ASH 2018 and Updated at ICML 2019***
- ***Fast Track designation granted by FDA***

N≈127

Relapsed or Refractory or Transformed DLBCL

- For patients after at least two prior multi-agent therapies and who are ineligible for transplantation, including high dose chemotherapy with stem cell
- Includes patients with GCB and non-GCB subtypes

Oral Selinexor | **60** mg

selinexor twice weekly
(4 week cycle)

[1] **S**elinexor **A**gainst **D**iffuse **A**ggressive **L**ymphoma

SADAL: A Phase 2b Study In DLBCL[1,2]

Selinexor 60mg twice weekly (n=127)

OVERALL RESPONSE RATES

All Patients	**28.3%** (n=127)	**CRs 10.2%** **PRs 18.1%**
Genetic Subsets	**33.9%** GCB (n=59)	**20.6%** non-GCB (n=63)

Note:5 additional patients had an unclassified subtype of which 1 had a CR and 2 had PRs

ADDITIONAL ENDPOINTS

Durability of Response

- Median DOR was **9.2** months
- Most responses at first scan (**~2** months)

Overall Survival

- All patients (n=127) = **9.0** months
- Patients with CR or PR (n=36) = **Not Yet Reached**
- Patients with Progressive Disease or No Response (n=80) = **4.1** months

Safety:

- Most common treatment related non-hematologic AEs were fatigue, nausea and anorexia, primarily Grade 1/2, and most were manageable with dose modifications and/or supportive care
- Most common Grade 3/4 AEs were thrombocytopenia, anemia, and neutropenia, and most were also manageable with dose modifications and/or supportive care

[1] Per Lugano Classification (Cheson, 2014); as adjudicated by an Independent Central Radiological Review Committee [2] Kalakonda N, et al. ICML 2019. Abstract 031.

Selinexor: A Growing Body of Safety Data

- Side effects of dosing regimens utilized in key Phase 2 and 3 trials (e.g., BOSTON, STORM, STOMP, SADAL and SEAL) were generally predictable and often managed with dose adjustments or supportive care, particularly when used once weekly in combination regimens
- Major organ toxicities were not prominent in clinical studies
- No clinically significant cumulative toxicities in clinical studies
- Combination regimens have demonstrated additive or synergistic activity in studies with potential to re-sensitize malignancies to prior therapies with predictable and manageable tolerability profile

Selinexor Tolerability Profile Across Diseases and Dosage / Schedule in Clinical Studies

	STORM[1]	STOMP – Darzalex® Combination Arm[2]	STOMP – Velcade® Combination Arm[3]	SADAL[4]	SEAL[5]
Disease Setting	Relapsed/Refractory Multiple Myeloma	Relapsed/Refractory Multiple Myeloma	Relapsed/Refractory Multiple Myeloma	Relapsed/Refractory DLBCL	Relapsed/Refractory Liposarcoma
# of Patients Reported to Date	202	25	26	127	26
Median Lines of Prior Treatment	7	3	3	2	2
Dose / Schedule of Selinexor	80 mg, twice per week	100 mg, once per week	100 mg, once per week	60 mg, twice per week	60 mg, twice per week
Incidence of Select Grade 3 & 4 Adverse Reactions	Non Heme: Nausea: 9%, Fatigue: 22% Heme: Thrombocytopenia: 61%, Neutropenia: 21%	Non Heme: Nausea: 6.5%, Fatigue: 16% Heme: Thrombocytopenia: 42.0%, Neutropenia: 23.0%	Non Heme: Nausea: 0%, Fatigue: 23.1% Heme: Thrombocytopenia: 30.8%, Neutropenia: 19.2%	Non Heme: Nausea: 6.3%, Fatigue: 9.4% Heme: Thrombocytopenia: 39.4%, Neutropenia: 20.5%	Non Heme: Nausea: 3.8%, Fatigue: 3.8% Heme: Thrombocytopenia: 11.5%, Neutropenia: 7.7%

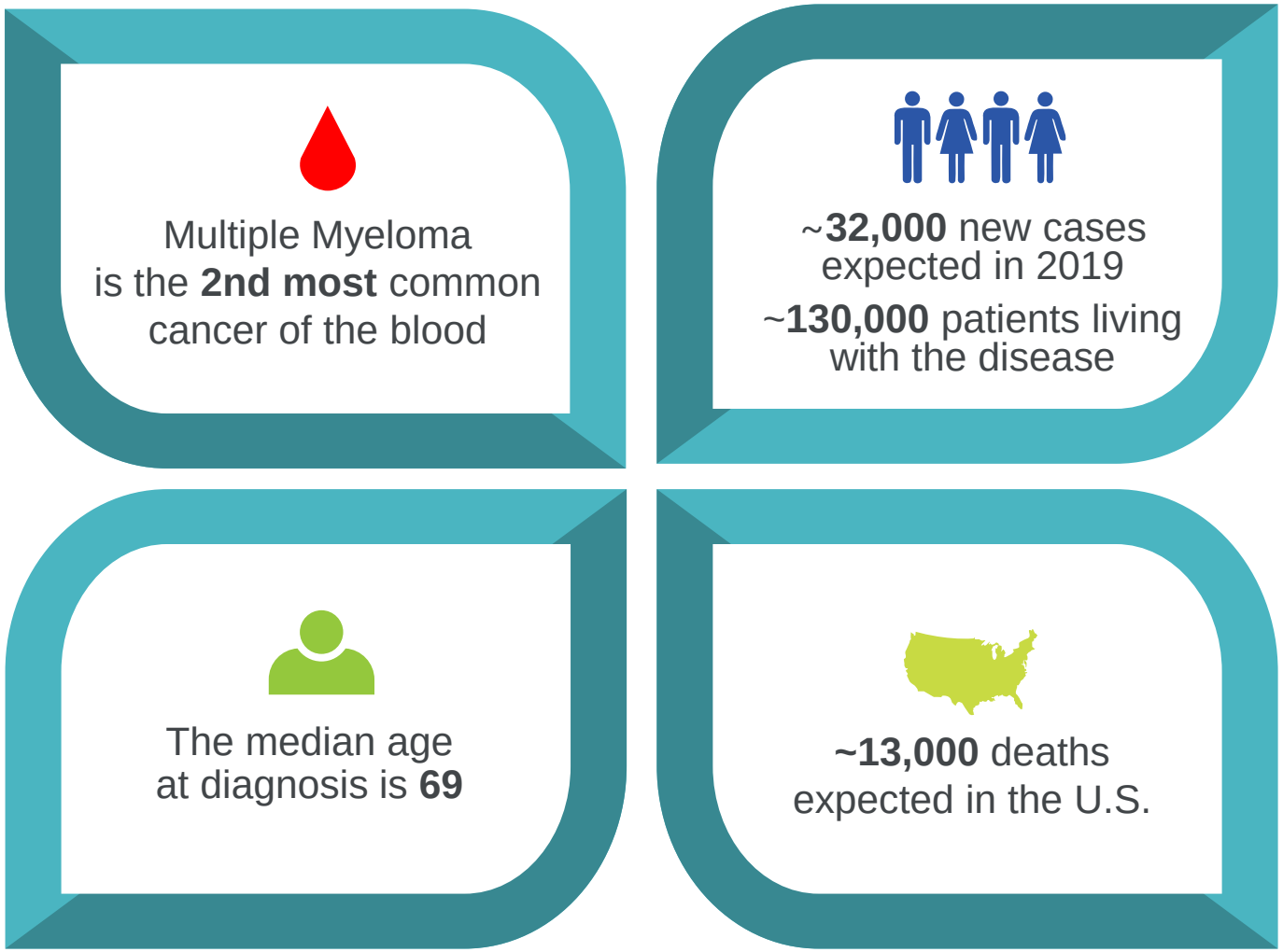
[1] XPOVIO Prescribing Information. [2] Gasparetto, et al. EHA 2019. Abstract S1606. [3] Bahlis NJ, et al. Blood 2018. [2] Kalakonda N, et al. ICML 2019. Abstract 031. [5] Gounder M, et al. ASCO 2018 Abstract 11512

Sizing the Commercial Opportunity

Multiple Myeloma

DLBCL

Multiple Myeloma Represents a Large Commercial Opportunity Where Patients are In Need of New Treatment Options



U.S. Statistics, 2019

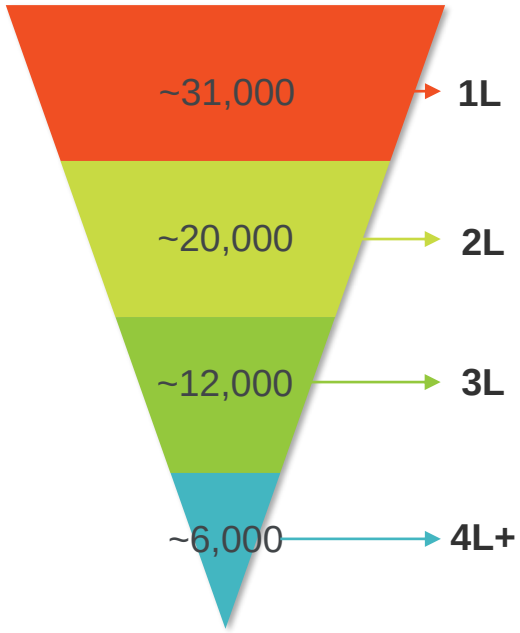
Source: SEER Cancer Stat Facts, 2019. National Cancer Institute

An Estimated 6,000 Patients Being Treated in the 4th Line+ Setting in the U.S.

~69,000
Patients treated with drug therapy in 2019

Patients by Line of Treatment

Estimated U.S. Multiple Myeloma Patients Treated by Line of Therapy, 2019



An additional 60,000+ patients not on active treatment or in long-term remission during the year

# of patients with relapsed / refractory disease is growing annually by mid-single digits due to population growth and increased life expectancy as a result of newly available treatment options

Sources: Karyopharm analysis based on data from Decision Resources, Kantar Cancer Impact and SEER Cancer Stat Facts. National Cancer Institute

Total WW Market for Myeloma Drugs is >$17B[1] Annually with Significant Opportunity for Numerous Brands in the Refractory Setting

Drug	Year Launched (U.S.)[1]	Initial Myeloma Indication Settings[1]	Current Myeloma Indication Settings[1]	2018 WW Sales[1]
Revlimid®	2006	2L	1L, Maintenance	$9.8B
Velcade®	2003	3L	1L	$2B (Peak of $2.6B in 2014)
Darzalex®	2015	3L (3 prior lines or refractory to PI and IMiD)	1L , 2L, 3L (+Pd), 3L mono (3 prior lines or refractory to PI and IMiD)	$2B
Pomalyst®	2013	2L (post RVd)	2L (post RVd)	$2B
Kyprolis®	2012	2L (post RVd)	2L - 4L (+d or Rd), 2L (mono)	$1B
Ninlaro®	2015	2L	2L	$589M

Note: R= Revlimid®, V= Velcade®, P= Pomalyst ®, d= dexamethasone, PI= Proteasome Inhibitor, IMid = Imuunonmodulatory drug

[1] Evaluate Pharma

Strategies for a Successful XPOVIO Commercial Launch

A successful commercial launch in 2019 will help set the stage for potential, future launches in additional indications in both myeloma and across tumor types currently in clinical development[1]

[1] Subject to positive clinical study results and future regulatory approvals

U.S. Sales Force Strategy

Customer-Facing Field Force

- ~70 sales representatives and nurse liaisons hired in Jan 2019 and now fully trained
  - — **~20** average years of pharmaceutical experience
  - — **~12** average years of Hem/Onc experience
  - — **~5** average years of multiple myeloma experience
- Experienced account management team responsible for payors and distribution partners
- Extensive patient and HCP support program anchored by KaryForward platform

Prescriber Base[1]

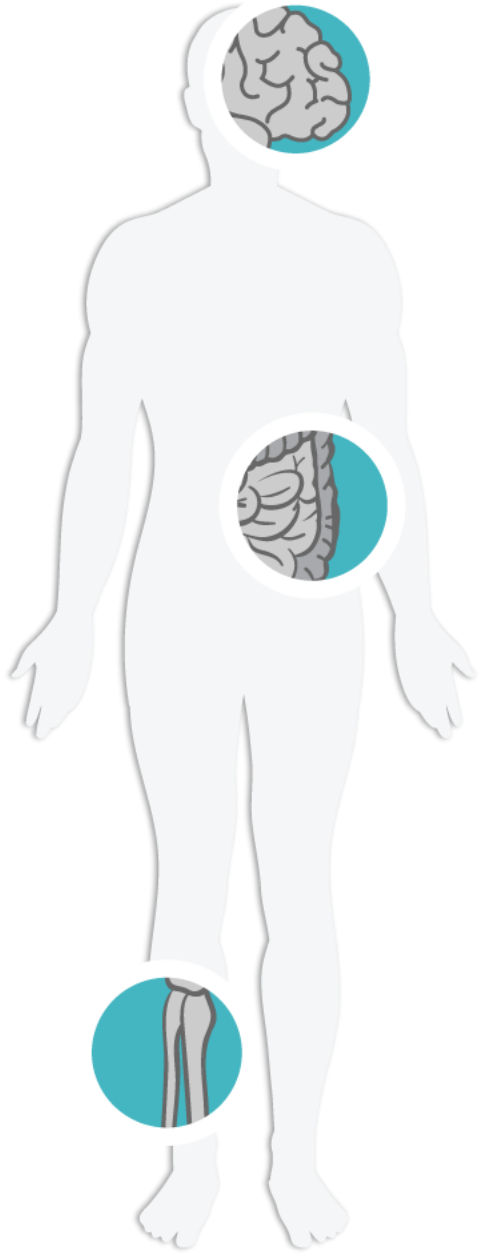
- ~1,300 accounts generate ~80% of all prescriptions for multiple myeloma drugs
- ~400 accounts generate ~50% of all prescriptions for multiple myeloma drugs
- Top accounts generally consist of larger academic institutions and multi-site community oncology practices

[1] Based on analysis of Symphony Claims data

Diffuse Large B-Cell Lymphoma

DLBCL is an aggressive lymphoma that can arise in lymph nodes or outside of the lymphatic system, in the gastrointestinal tract, testes, thyroid, skin, breast, bone, or brain[1]

DLBCL is characterized by painless, rapid swelling in the neck, underarms, or groin that is caused by enlarged lymph nodes[1]



An estimated

~32,000

New patients diagnosed annually in the U.S.[2]

~40% of patients are not cured by currently available therapies and eventually succumb to their disease[3]

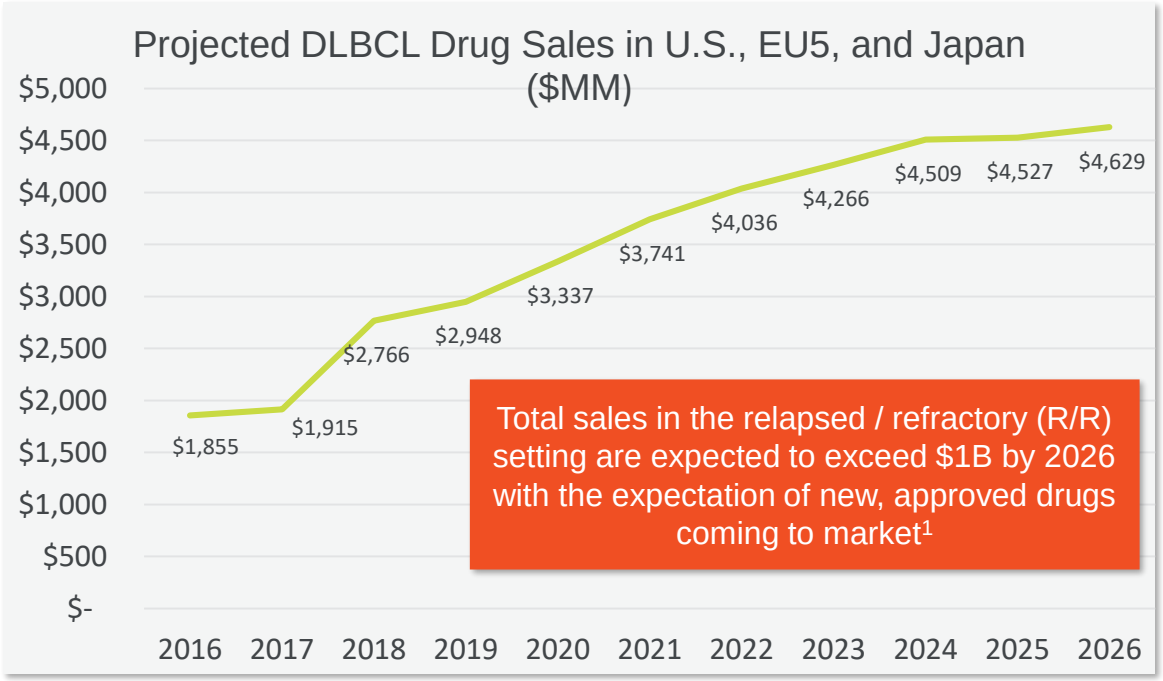
An estimated

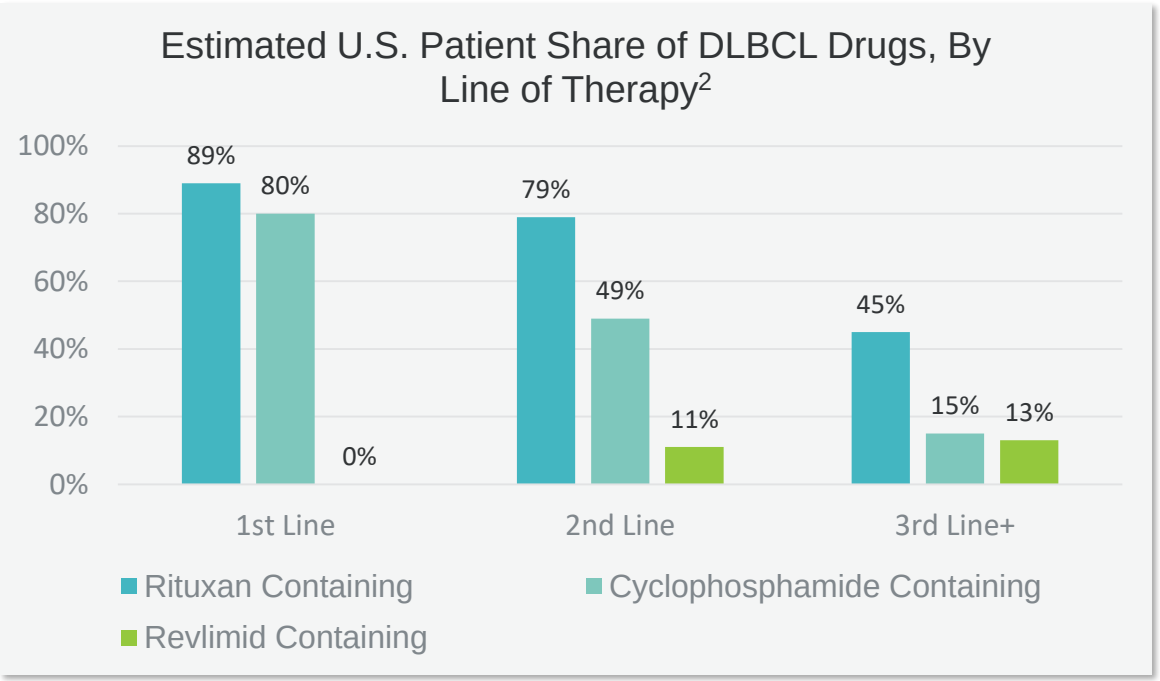
18,000 (U.S.) and 12,000 (EU5)

Relapsed or refractory patients are treated with drug-therapy, annually[2]

[1] Lymphoma Research Foundation [2] Decision Resources NHL and CLL Landscape and Forecast 2018, [3] Kantar Health

Total Major Market Sales for DLBCL Drugs Expected to Grow from $1.9B in 2016 to Over $4B by 2022[1]





Bars are not mutually exclusive; a regimen containing two agents would appear in bars for both agents

[1] Decision Resources NHL and CLL Landscape and Forecast, 2018 [2] Intrinsiq, Drug Combo LOT Monthly, Dec 2018

Key Features Selinexor in Clinical Studies Provide Foundation for Potential Future Commercial Success

Despite available treatments, virtually all myeloma patients and roughly 40% of DLBCL patients will have progressive disease and require additional treatment options

Key Selinexor Features

- Single agent activity demonstrated across multiple tumor types
  - In multiple myeloma, selinexor has been studied in combination with dexamethasone
- Durable responses achieved in MM and DLBCL and associated with prolonged survival
- Novel mechanism of action
- Combination regimens have demonstrated additive or synergistic activity in studies with potential to re-sensitize malignancies to prior therapies
- Predictable and manageable tolerability profile without significant major organ toxicities observed
  - Side effects generally predictable and often managed with dose adjustments or supportive care
- Oral administration
- Infrequently dosed – once or twice per week depending on disease setting
- Patent life through 2032+

Current Partnerships

Commercial partnerships to serve global markets

Ono Pharmaceutical Co. Ltd.
Licensing transaction for selinexor and eltanexor in all oncology indications in **Japan** and other Asian countries[1]

Antengene Corporation
Licensing transaction for selinexor, eltanexor, verdinexor and KPT-9274 in **China** and other Asian countries[2]

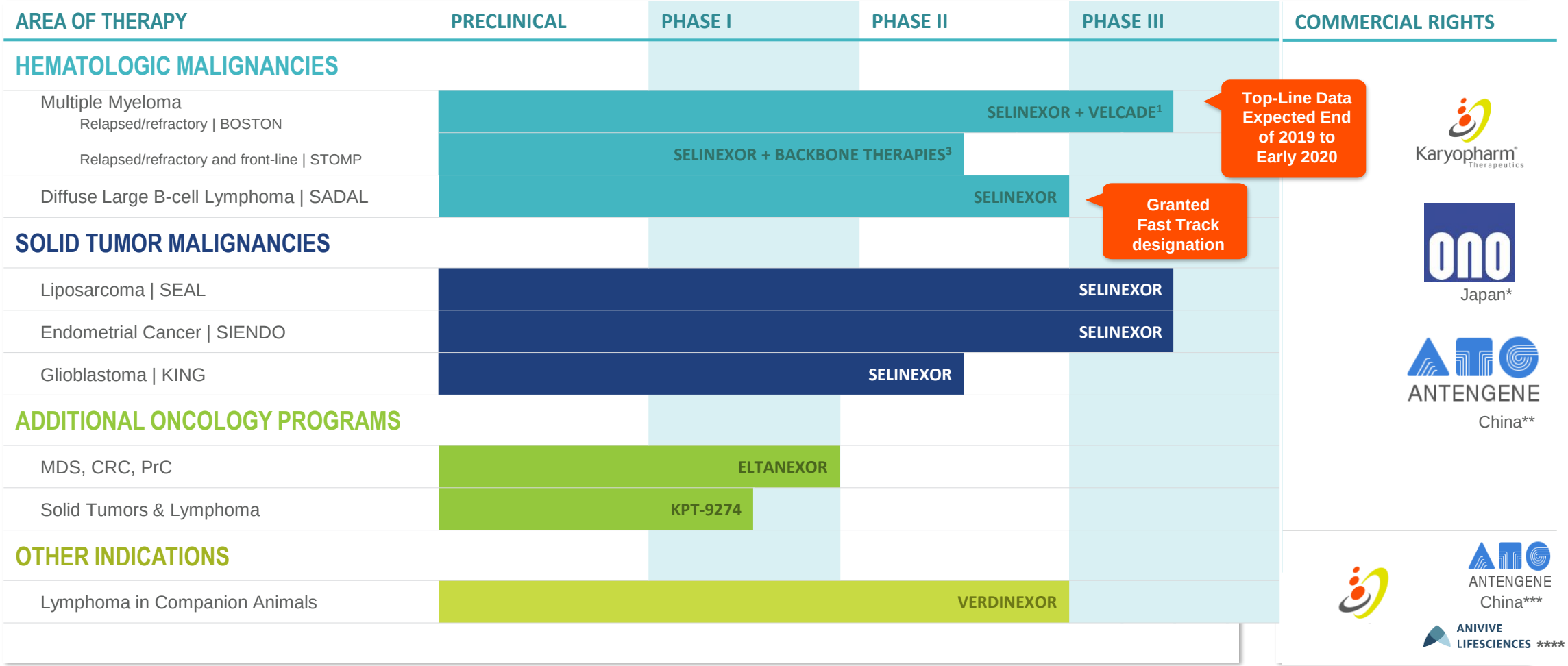
Europe and Other Key Markets
Seeking potential collaboration arrangements with commercial partners; analyzing potential for Karyopharm to commercialize in select European markets

Karyopharm is committed to working across the globe to bring novel therapies to patients

[1] Transaction includes Japan, South Korea, Taiwan, Hong Kong and ASEAN countries.
[2] Transaction includes China and Macau for selinexor and eltanexor and China, Macau, Taiwan, Hong Kong, South Korea and the ASEAN countries for verdinexor and KPT-9274.

Future Opportunities and Additional Highlights

All Oral Pipeline



Oral SINE compound and XPO1 inhibitor **KPT-350** acquired by **Biogen** for treatment of certain neurological and neurodegenerative conditions, including ALS, in Jan 2018

[1] Oral selinexor, Velcade® (bortezomib) and dexamethasone vs. Velcade and dexamethasone
[2] Oral selinexor + dexamethasone
[3] Oral selinexor and dexamethasone + Revlimid® (lenalidomide), Pomalyst® (pomalidomide), Velcade, Kyprolis® (carfilzomib) or Darzalex® (daratumumab)

*Territories: Japan, S. Korea, Taiwan, Hong Kong, and ASEAN countries.
** Antengene licensed rights to selinexor and eltanexor in China and Macau.
*** Antengene licensed rights to KPT-9274 and verdinexor in mainland China, Macau, Taiwan, Hong Kong, South Korea, and the ASEAN countries.
**** Anivive holds exclusive worldwide rights to research, develop and commercialize verdinexor only for the treatment of cancer in companion animals

Selinexor in Solid Tumor Malignancies

Selinexor in Liposarcoma

- Ongoing Phase 3 SEAL study; randomized, double-blind trial evaluating single-agent selinexor versus placebo in patients with advanced unresectable dedifferentiated liposarcoma after at least two systemic therapies
- Primary endpoint: PFS (crossover from placebo to selinexor is allowed)
- Top-line data expected in 2020
- Selinexor achieved PFS of 5.5 months versus 2.7 months for placebo in Phase 2 (n=56), HR=0.67 (RECIST v1.1)[1]

Selinexor in Endometrial Cancer

- Ongoing Phase 3 SIENDO study; recently transitioned to a company-sponsored trial evaluating once weekly selinexor as a maintenance therapy versus placebo in patients with endometrial cancer after first-line chemotherapy
- Achieved 45% DCR, 3 months mPFS and 8 months mOS in Phase 2 SIGN study (n=20)[2]

[1] Gounder, M, et al. ASCO 2018. Abstract 11512. [2] Vergote, I, et al. ESMO 2016. Abstract 8540.

Other Pipeline Programs

Eltanexor (KPT-8602)

- Oral, 2nd generation SINE compound
- Preclinical results show substantially less brain penetration versus selinexor
- Currently being evaluated in Phase 1/2 study in myelodysplastic syndrome (MDS), colorectal cancer (CRC) and metastatic castrate-resistant prostate cancer (mCRPC)
- Reported updated data from Phase 1 portion at ASH 2017, CRC data at ESMO 2018 and mCRPC data at ASCO-GU 2019
- Adverse events were generally manageable and predictable to date in >50 patients

KPT-9274

- Oral dual Inhibitor of PAK4 and NAMPT
- In Phase 1 clinical testing in advanced solid tumors
- Generally well tolerated (n=21) with early signals of anti-tumor activity
- Additional supportive preclinical research presented at ASH 2017

Financial Highlights

$218M

Cash, cash equivalents, restricted cash and investments

BALANCE SHEET 30-June-2019[1]

Into 2H 2020

EXPECTED RUNWAY WITH CASH ON HAND[1]

61M

72M fully diluted

SHARES OUTSTANDING 30-June-2019[1]

[1] SecondQuarter Financial Results, 8/6/19

Expected Milestones: Looking Ahead to an Event-Driven 2019-2020

SELINEXOR Hematologic Malignancies

Multiple Myeloma
(Highly-refractory[1])

- ✓ MAA submission[2] – Jan 2019
- ✓ FDA approval – July 2019
- ✓ U.S. Launch – July 2019
- • EMA approval decision – end of 2019 to early 2020

Multiple Myeloma
(Relapsed/refractory; 1-3 prior lines of therapy)

- ✓ Completion of BOSTON accrual
- ✓ Provide updates for Phase 1b/2 STOMP study at future medical meetings
- • Top-line Phase 3 BOSTON data – end of 2019 or into 2020[4]
- • NDA submission[5] – 2020

DLBCL
(Relapsed/refractory)

- • NDA and MAA submissions[2,3] – Q4 2019 to Q1 2020 pending FDA feedback

SELINEXOR Solid Tumor Malignancies

Liposarcoma
(Relapsed/refractory)

- • Top-line Phase 3 SEAL data –2020
- • NDA submission[3,6] – 2020

Endometrial Cancer
(Maintenance after first- or second-line therapy)

- • Enrollment Completion– 2020

Other Programs

- ✓ **Eltanexor:** Report additional Phase 2 solid tumor data – 1H 2019
- • **KPT-9274:** Report updated Phase 1/2 safety and tolerability data – 2019

[1] Patients who have previously received two PIs, Velcade® (bortezomib) and Kyprolis® (carfilzomib), and two IMiDs, Revlimid® (lenalidomide) and Pomalyst® (pomalidomide), and the anti-CD38 monoclonal antibody Darzalex® (daratumumab), and their disease is refractory to at least one PI, at least one IMiD, and Darzalex®, and their most recent therapy. [2] With request for conditional approval (EU). [3] With request for accelerated approval (U.S.). [4]Pending PFS events. [5] Assuming positive outcome from Phase 3 BOSTON study. [6] Assuming positive outcome from Phase 3 portion of SEAL study.

Thank You