Prospectus Supplement No. 21
(to Prospectus dated January 8, 2021)

Filed Pursuant to 424(b)(3)
Registration No. 333-250945

6,765,463 Shares of Common Stock
Warrants to Purchase up to 7,692,307 Shares of Common Stock
Pre-Funded Warrants to Purchase up to 926,844 Shares of Common Stock

This prospectus supplement updates and should be read in conjunction with the prospectus dated January 8, 2021, or the Prospectus, relating to the offering of up to 6,765,463 shares of our common stock, warrants to purchase up to 7,692,307 shares of our common stock and pre-funded warrants to purchase 926,844 shares of our common stock, as well as an option to the underwriter in the offering to purchase up to an additional 1,153,846 shares of common stock and/or warrants to purchase up to 1,153,846 shares of our common stock, in any combination thereof. To the extent that there is any conflict between the information contained herein and the information contained in the Prospectus, the information contained herein supersedes and replaces such information.

Current Report

This prospectus supplement incorporates into the Prospectus the information contained in our attached Current Report on Form 8-K that we filed with the Securities and Exchange Commission on January 19, 2022, or the Form 8-K. The Form 8-K, as filed, is set forth below.

The information contained in this Prospectus Supplement No. 21 supplements and supersedes, in relevant part, the information contained in the Prospectus, as amended and supplemented to date. This Prospectus Supplement No. 21 is incorporated by reference into, and should be read in conjunction with, the Prospectus, as amended and supplemented to date, and is not complete without, and may not be delivered or utilized except in connection with, the Prospectus, as amended and supplemented to date.

The Prospectus, together with Prospectus Supplement No.1, Prospectus Supplement No. 2, Prospectus Supplement No. 3, Prospectus Supplement No. 4, Prospectus Supplement No. 5, Prospectus Supplement No. 6, Prospectus Supplement No. 7, Prospectus Supplement No. 8, Prospectus Supplement No. 9, Prospectus Supplement No. 10, Prospectus Supplement No. 11, Prospectus Supplement No. 12, Prospectus Supplement No. 13, Prospectus Supplement No. 14, Prospectus Supplement No. 15, Prospectus Supplement No. 16, Prospectus Supplement No. 17, Prospectus Supplement No. 18, Prospectus Supplement No. 19, Prospectus Supplement No. 20 and Prospectus Supplement No. 21, constitutes the prospectus required to be delivered by Section 5(b) of the Securities Act of 1933, as amended, with respect to offers and sales of the securities as set forth in the Prospectus, as amended and supplemented. All references in the Prospectus to "this prospectus" are amended to read "this prospectus (as supplemented and amended to date)."

Our common stock is traded on the NASDAQ Global Select Market under the symbol "KMPH." The last reported sale price of our common stock on January 18, 2022 was $8.00 per share. You are urged to obtain current market quotations for our common stock.

Investing in our securities is highly speculative and involves a significant degree of risk. See "Risk Factors" beginning on page 9 of the Prospectus and the Risk Factors identified in our Annual Report for the year ended December 31, 2020 and in our Quarterly Report for the quarter ended September 30, 2021 for a discussion of information that should be considered before making a decision to purchase our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is January 19, 2022.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of Earliest Event Reported): January 19, 2022

KemPharm, Inc.
(Exact Name of Registrant as Specified in Its Charter)

Delaware	**001-36913**	**20-5894398**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

1180 Celebration Boulevard, Suite 103, Celebration, FL	**34747**
(Address of Principal Executive Offices)	**(Zip Code)**

Registrant's Telephone Number, Including Area Code: (321) 939-3416

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

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

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

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

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

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	KMPH	The Nasdaq Stock Market LLC (Nasdaq Global Select Market)

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 2.02 Results of Operations and Financial Condition.

On January 19, 2022, KemPharm, Inc. (the "Company") issued a press release (the "Press Release") announcing that Travis C. Mickle, Ph.D., president and chief executive officer of the Company, issued a letter to shareholders detailing the company's strategic focus on central nervous system/rare disease indications, an updated clinical development strategy and including the Company's preliminary cash balance as of December 31, 2021. The Company also announced that it will host a conference call and live audio webcast with slide presentation today, at 4:30 p.m. ET, to discuss the Company's strategy for advancing and expanding its development pipeline. During the call, senior management will provide guidance regarding the Company's future clinical development priorities. A copy of the Press Release, including the letter to shareholders, and slide presentation are attached as Exhibits 99.1 and 99.2, respectively, to this Current Report on Form 8-K.

Item 8.01 Other Events.

The information set forth above under Item 2.02 is hereby incorporated by reference into this Item 8.01.

Item 9.01 Financial Statements and Exhibits.

The following exhibits relating to Item 2.02 shall be deemed to be furnished, and not filed:

(d) Exhibits

Exhibit No.	Description
99.1	Press Release dated January 19, 2022.
99.2	Presentation dated January 19, 2022.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

KemPharm, Inc.

Date: January 19, 2022

By: /s/ R. LaDuane Clifton
R. LaDuane Clifton, CPA
Chief Financial Officer, Secretary and Treasurer

Exhibit 99.1

KemPharm Issues Letter to Shareholders Detailing Strategic Focus on CNS/Rare Disease Indications and Updated Clinical Development Strategy

KemPharm to Advance KP1077 for Idiopathic Hypersomnia as Lead SDX Product Candidate

Strong Balance Sheet with Cash and Cash Equivalents of $127.8M as of December 31, 2021; Available Cash and Revenues Extend Cash Runway through 2025 and Beyond

AZSTARYS® National Launch Accelerating, Full Sales Team in Place by end of January 2022

Conference Call and Live Audio Webcast with Slide Presentation Scheduled for Today, January 19, 2022, at 4:30 p.m. ET

Celebration, FL – January 19, 2022 – KemPharm, Inc. (NasdaqGS: KMPH), a specialty pharmaceutical company focused on the discovery and development of proprietary prodrugs, today announced that Travis C. Mickle, Ph.D., President and CEO of KemPharm, has issued a Letter to Shareholders detailing the company's strategic focus on Central Nervous System (CNS)/Rare Disease indications, as well as an updated clinical development strategy.

The full text of the letter follows. Information about the conference call and live audio webcast can be found following the letter's conclusion.

A MESSAGE FROM OUR CHIEF EXECUTIVE OFFICER

Dear Fellow Shareholders:

Today is an important milestone in the ongoing evolution of KemPharm and follows a series of transformative events for the company during the past 12 months highlighted by the U.S. commercial launch of AZSTARYS®, the uplisting of our stock to the Nasdaq Global Select Market and its addition to the Nasdaq Biotechnology Index, and the restructuring and recapitalization of our finances, culminating with the announcement of a $50 million share repurchase program through 2023. These events have allowed us to build a strong foundation for the Company's future, and with that momentum, we have worked to thoughtfully refine our strategic focus to CNS/Rare Disease indications for our future product development efforts.

Given our significant expertise and a track record of product development success, our strategic focus on CNS/rare disease indications allows us to target high-value areas with significant unmet needs. Our evaluation of both internal and external product candidates is guided by criteria that include an assessment of the commercial opportunity, and understanding of clinical, development and regulatory risks, as well as time, cost and need, among other strategic considerations. Within CNS/rare disease, there are many potential indications where we believe our LAT® (Ligand Activated Therapy) platform technology and our product development expertise can provide multiple opportunities to drive growth for KemPharm. Some of the possible areas of interest include:

- Neurology and neurodegenerative diseases like Alzheimer's disease, Parkinson's disease and Huntington's disease;

- Psychiatric disorders, which could include indications focused on niche market opportunities like rare sleep disorders or psychedelics; and
- Rare diseases and other adjacent or related therapeutic categories, like gastroenterology, metabolic diseases or endocrinology.

While we continue to build and acquire new opportunities, serdexmethylphenidate (SDX), will be a key building block for our CNS/rare disease pipeline and represents the potential to continue driving near-term growth for KemPharm. For those new to KemPharm, SDX is our proprietary prodrug of d-methylphenidate (d-MPH). It is the primary active pharmaceutical ingredient (API) in AZSTARYS, a once-daily product for the treatment of attention deficit hyperactivity disorder (ADHD) in patients ages six years and older, and is also the sole API in two other development-stage products, KP1077 (Idiopathic Hypersomnia) and KP879 (Stimulant Use Disorder).

As a prodrug, SDX is specifically designed to be pharmacologically inactive until reaching the lower gastrointestinal tract, where, by design, SDX is gradually converted to d-MPH. For AZSTARYS, this property is key to the drug's ability to provide extended symptom control for up to 13 hours, and SDX's combined formulation with d-MPH differentiates AZSTARYS from other d-MPH-based ADHD treatments on the market. AZSTARYS is being commercialized in the U.S. by Corium, Inc.

SDX also possesses several pharmacokinetic (PK) properties that distinguish it from d-MPH and other stimulant drug therapies. As highlighted at the recent APSARD 2022 Annual Conference, research has demonstrated that SDX produces dose-proportional d-MPH exposure, is not impacted by the presence or lack of food, and is fully absorbed, metabolized and excreted following oral administration. These properties, we believe, are instrumental to the prodrug's ability to enable a consistent and smooth release of d-MPH.

Lastly, and perhaps most importantly, SDX is the only methylphenidate-based compound designated as a Schedule IV controlled substance by the U.S. Drug Enforcement Agency (DEA). This is a significant distinction as it could indicate to prescribers that SDX has a lower potential for abuse when compared to d-MPH, a Schedule II controlled substance.

Given the many unique properties of SDX, we believe there is a substantial opportunity to develop multiple SDX-based drug candidates that potentially address disease indications underserved by current therapeutic options. Based on this promise, we conducted a clinical trial exploring the safety and PK of SDX delivered at doses higher than those studied as part of the AZSTARYS development program. The intent of the trial was to determine if higher doses of SDX could be administered safely and produce pharmacodynamic effects consistent with the dosing and in alignment with disease indications that we believe could benefit from the unique properties of SDX.

As reported in December, data from the study indicated that the 240 mg and 360 mg doses of SDX were well-tolerated and produced d-MPH exposure generally proportional to the dose, with d-MPH plasma concentrations demonstrating a gradual increase followed by a slow decline. Additionally, data suggested that the higher SDX doses produced targeted biological effects that potentially align with the treatment of idiopathic hypersomnia and other sleep disorders, as well as stimulant use disorder. Specifically, increased wakefulness, alertness, excitability, and insomnia effects were observed in the study.

In short, the results were exactly what we were hoping to achieve, allowing us to finalize our SDX development plan.

KP1077 for Idiopathic Hypersomnia – Lead Development Candidate

Buoyed by the favorable SDX data, we conducted an analysis of potential development opportunities to determine how to best prioritize our SDX-based product candidates in order to maximize shareholder value. The process included:

1. A risk assessment analyzing the clinical, development and regulatory challenges for each product;

2. An evaluation of each product's commercial opportunity, including physician, payor, and competitive landscape research; and

3. A calculation of the projected time, cost, and additional needs required to ensure regulatory success with the FDA, from IND (Investigational New Drug application) to NDA (New Drug Application)

From this, it was clear that KP1077 as a treatment for idiopathic hypersomnia (IH) should be our lead development candidate.

For those unfamiliar with IH, it is a rare neurological sleep disorder affecting approximately 37,000 patients in the U.S.. However, anecdotal evidence suggests the actual number of IH patients could be higher.

The cardinal feature of IH is excessive daytime sleepiness (EDS), characterized by daytime lapses into sleep, or an irrepressible need to sleep that persists even with adequate or prolonged nighttime sleep. Additionally, those with IH have extreme difficulty waking, otherwise known as "sleep inertia," severe brain fog, and may fall asleep unintentionally or at inappropriate times, otherwise known as narcolepsy. Moreover, people with IH often report memory problems, difficulty maintaining focus, and depression.

IH is a serious, debilitating condition that can impact every moment of a person's life, even making the mundane a challenge. As a result, both the medical and pharmaceutical communities have begun to direct more resources at treating the condition. Xywav®, developed by Jazz Pharmaceuticals, was approved by the FDA in August for the treatment of IH, and recently, Harmony Biosciences announced that it would initiate a Phase 3 trial of Wakix®, currently approved for EDS or cataplexy in adult patients with narcolepsy, in patients with IH. Additionally, prescribers utilize narcolepsy medications and various methylphenidate/stimulant products "off-label" to treat IH symptoms, with methylphenidate being one of the most commonly used stimulants for treating IH.

While each of these medications can help to address certain IH symptoms, each has critical shortcomings, including dosing inconvenience (Xywav requires two doses at night with one dose occurring four hours after bedtime), serious adverse events, such as elevated blood pressure and heart rate, and significant drug-drug interactions (DDIs), including with medications used to manage contraception and depression. In addition to the shortcomings, patients have indicated that their current medication effectiveness was poor[1]

[1] https://www.sleepcountshcp.com/idiopathic-hypersomnia-treatment-options

The market potential for IH is also highly compelling. With limited treatment options available for this small, underserved patient segment, there is the potential for KP1077 to be designated as an orphan drug, as well as possible eligbility for fast-track review status and for designation as a breakthrough treatment. In addition, we believe that if differentiated from other treatment options, pricing KP1077 in between products like Teva Pharmaceuticals' Provigil® (approximately $24,000 per year at the highest dose) and Jazz Pharmaceuticals' Xywav (approximately $187,000 per year at the highest dose) could lead to significant market share. Moreover, since the patient population is relatively small and well-monitored, given the debilitating nature of the disease, we believe it would be possible for KemPharm to field its own small specialty sales force to commercialize the product, and therefore keep a larger portion of the economics instead of out-licensing commercial rights to a third party.

Given these factors, we see a substantial opportunity to advance KP1077 as a treatment for IH, and initial market research suggests that KP1077 could capture a large share of the IH market based on the following potential treatment, regulatory and commercial benefits:

- Dosing flexibility – either one dose or two doses – designed to address the two primary issues associated with IH:
    - Nighttime dose would address sleep inertia
    - Morning dose would address daytime brain fog
- No drug-drug interaction potential especially with hormonal contraceptives and antidepressants
- Reduced abuse potential with a Schedule IV designation
- Orphan drug designation potential, as well as fast-track and breakthrough designation eligibility
- No generic equivalent
- Composition of matter patents extending to 2037 with additional applications potentially extending the IP time horizon

In addition to these potential benefits, we anticipate an efficient and robust development program for KP1077. At present, we are targeting an Investigational New Drug (IND) application filing for KP1077 in IH by mid-year 2022. We then anticipate initiating a Phase 2 trial of KP1077 in IH in the third quarter of 2022 with top-line data by the second quarter of 2023.

We are also planning a parallel development program for KP1077 in narcolepsy. The IND filing for this additional program is expected during the second half of 2022, with a Phase 2/3 trial expected to begin by the end of 2022 or early 2023.

While KP1077 will be our lead SDX development candidate, we plan to continue the development of KP879 as an extended-duration, agonist replacement therapy for the treatment of Stimulant Use Disorder (SUD). However, through our evaluation of the clinical, regulatory and development risks for pursuing the SUD indication, we recognized that KP879 will require a more challenging and lengthier development program that will likely necessitate partnership with government, academia, or other strategic partners to successfully advance the program toward approval.

Creating a CNS/Rare Disease Franchise with SDX and Other Opportunities

Our strategic focus on CNS/Rare Disease indications will also guide our ongoing business development efforts to expand our development pipeline and accelerate value creation. As already outlined, we are considering external opportunities within neurology and neurodegenerative diseases, psychiatric disorders, and other rare diseases, along with adjacent or related therapeutic categories. We are seeking assets in Phase 2 or later, subject to our evaluation criteria, that we can in-license or acquire.

If we are successful, new product candidates that fit this focus could be accretive to KemPharm's value proposition by potentially adding new clinical data catalysts and the potential to create incremental long-term value for shareholders. In addition, we believe that a multi-channel development program with multiple product candidates addressing various CNS/rare disease indications will diversify risk and create the potential for multiple commercial-stage products in the future.

KemPharm –Poised for Significant Growth in 2022 and Beyond

Foundational to the pursuit of our new strategic focus is the potential to begin realizing royalties and sales milestone payments from the ongoing commercialization of AZSTARYS. Corium, our U.S. commercial partner for AZSTARYS, continues to see prescriber momentum build, and we are pleased to report that AZSTARYS now has payor access to more than 100 million commercial and Medicaid patient lives as of January 1, 2022. Payor access for AZSTARYS has doubled since October 1, 2021, thanks to the efforts of the excellent team Corium has built for the commercial launch. This success is leading Corium to accelerate national expansion of the commercial roll-out, with full national staffing to be in place by end of January 2022. We are encouraged by this progress and expect 2022 to be a time of significant growth for AZSTARYS.

We also enter 2022 with a strong balance sheet, which as of December 31, 2021, included cash and cash equivalents totaling $127.8 million. Unlike many development-stage biopharmaceutical companies, our balance sheet provides the ability to pursue our strategic and product development objectives while also seeking external opportunities. Available capital combined with anticipated revenues allows us to pursue our development plan and extend our cash runway through 2025 and beyond. In addition, our recently announced $50 million share repurchase program, which will remain in place through 2023, provides a mechanism through which we can directly return value to shareholders as we are able to realize success in our business efforts.

In closing, the successes that we have experienced over the past year combined with the growth opportunities anticipated for 2022 and beyond have been made possible by the diligent efforts of our team and the support of our shareholders. Thanks to all of you.

Sincerely,

Travis C. Mickle, Ph.D.
Shareholder, President, and Chief Executive Officer
KemPharm, Inc.

End of the shareholder letter text.

Conference Call Information:

KemPharm will host a conference call and live audio webcast with slide presentation on Wednesday, January 19, 2022, at 4:30 p.m. ET, to discuss its strategic focus on CNS/rare disease indications and its updated clinical development strategy.

Telephone Access: To access the conference call telephonically, interested participants and investors will be required to register via the following online form: http://www.directeventreg.com/registration/event/6718737
Once registered, all individuals will be provided with participant dial-in numbers, a passcode and a registrant ID, which can then be used to access the conference call.
Participants may register at any time. It is recommended that the registration process be completed at least 15 minutes prior to the start of the call.

Webcast Access: The live audio webcast with slide presentation will be accessible via the Investor Relations section of KemPharm's website, http://investors.kempharm.com/. An archive of the webcast and presentation will be available for 90 days beginning at approximately 5:30 p.m. ET, on January 19, 2022.

About AZSTARYS®:

AZSTARYS is an FDA-approved, once-daily product for the treatment of attention deficit hyperactivity disorder (ADHD) in patients age six years and older. AZSTARYS consists of SDX, KemPharm's prodrug of d-methylphenidate (d-MPH), co-formulated with immediate release d-MPH. Corium, Inc., a portfolio company of Gurnet Point Capital, is leading all commercialization efforts for AZSTARYS in the U.S.

The complete approved prescribing information for AZSTARYS may be downloaded in PDF format here:

https://kempharm.com/wp-content/uploads/2021/03/AZSTARYS-Master-Label-Final_20210302.pdf

About KemPharm:

KemPharm is a specialty pharmaceutical company focused on the discovery and development of proprietary prodrugs to treat serious medical conditions through its proprietary LAT® (Ligand Activated Therapy) technology. KemPharm utilizes its proprietary LAT® technology to generate improved prodrug versions of FDA-approved drugs as well as to generate prodrug versions of existing compounds that may have applications for new disease indications. KemPharm's prodrug product candidate pipeline is focused on the high need areas of idiopathic hypersomnia (IH) and other CNS/rare diseases. In addition, the U.S. Food and Drug Administration (FDA) has approved AZSTARYS®, a new once-daily treatment for ADHD in patents age six years and older containing KemPharm's prodrug, serdexmethylphenidate (SDX), and APADAZ®, an immediate-release combination product containing benzhydrocodone, KemPharm's prodrug of hydrocodone, and acetaminophen. For more information on KemPharm and its pipeline of prodrug product candidates visit www.kempharm.com or connect with us on Twitter, LinkedIn, Facebook and YouTube.

Financial Disclosure Advisory

The Company reports its financial results in accordance with U.S. generally accepted accounting principles (GAAP). The expected financial results discussed in this press release are preliminary and represent the most current information available to the Company's management, as financial closing procedures for the fourth quarter and fiscal year ended December 31, 2021, are not yet complete. These estimates are not a comprehensive statement of the Company's financial results for the fourth quarter and fiscal year ended December 31, 2021, and actual results may differ materially from these estimates as a result of the completion of year-end accounting procedures and adjustments, including the execution of the Company's internal control over financial reporting, the completion of the preparation and audit of the Company's financial statements and the subsequent occurrence or identification of events prior to the formal issuance of the audited financial statements for fiscal 2021.

Caution Concerning Forward Looking Statements:

This press release may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include all statements that do not relate solely to historical or current facts, including without limitation and which can be identified by the use of words such as "may," "will," "expect," "project," "estimate," "anticipate," "plan," "believe," "potential," "should," "continue," "could," "intend," "target," "predict," or the negative versions of those words or other comparable words or expressions, although not all forward-looking statements contain these identifying words or expressions. Forward-looking statements are not guarantees of future actions or performance. These forward-looking statements include statements regarding the continued commercialization and market outlook for AZSTARYS®, the potential benefits of AZSTARYS, KemPharm's pipeline of product candidates including the clinical development of KP879 and KP1077, the promise and potential impact of our preclinical or clinical trial data, upcoming milestones, including without limitation the timing and results of any clinical trials or readouts, the potential benefits of SDX or any other product candidates for any specific disease indication, or the potential benefits of any of KemPharm's product candidates or market assessments, KemPharm's forecasted cash runway, our strategic and product development objectives, and the execution and duration of our share repurchase program. These forward-looking statements are based on information currently available to KemPharm and its current plans or expectations and are subject to a number of known and unknown uncertainties, risks and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. These and other important factors are described in detail in the "Risk Factors" section of KemPharm's Annual Report on Form 10-K for the year ended December 31, 2020, KemPharm's Quarterly Report for the quarter ended September 30, 2021, and KemPharm's other filings with the Securities and Exchange Commission.

While we may elect to update such forward-looking statements at some point in the future, except as required by law, we disclaim any obligation to do so, even if subsequent events cause our views to change. Although we believe the expectations reflected in such forward-looking statements are reasonable, we can give no assurance that such expectations will prove to be correct. These forward-looking statements should not be relied upon as representing our views as of any date subsequent to the date of this press release.

This press release also may contain estimates and other statistical data made by independent parties and by us relating to market size and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. In addition, projections, assumptions and estimates of our future performance and the future performance of the markets in which we operate are necessarily subject to a high degree of uncertainty and risk.

KemPharm Contacts:

Tiberend Strategic Advisors, Inc.
Jason Rando/Maureen McEnroe, CFA
(212) 375-2665 / 2664
jrando@tiberend.com
mmcenroe@tiberend.com

Exhibit 99.2

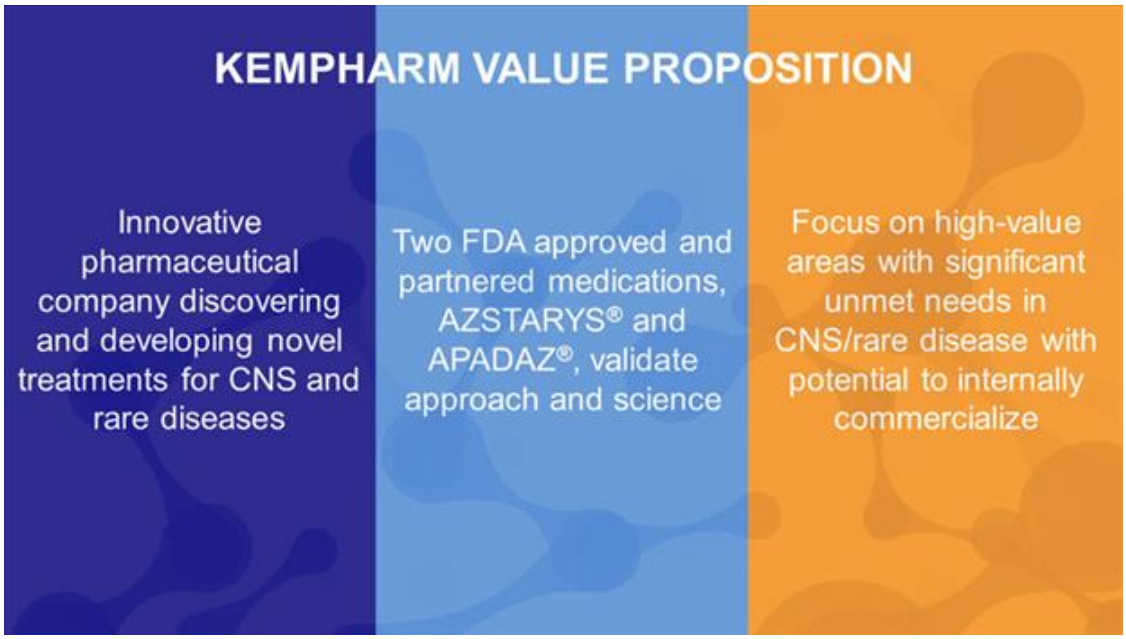

KemPharm INC
Management Presentation
January 2022
Trademarks herein are held by their respective owners.

Cautionary Note Regarding Presentation Information

This presentation may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include all statements that do not relate solely to historical or current facts, including without limitation and can be identified by the use of words such as "may," "will," "expect," "project," "estimate," "anticipate," "plan," "believe," "potential," "should," "continue," "could," "intend," "target," "predict," or the negative versions of those words or other comparable words or expressions, although not all forward-looking statements contain these identifying words or expressions. Forward-looking statements are not guarantees of future actions or performance. These forward-looking statements include statements regarding the market outlook for AZSTARYS®, potential regulatory and sales milestone and royalty payments pursuant to the License Agreement with an affiliate of Gurnet Point Capital, the potential benefits of AZSTARYS, the clinical development of KP879 and KP1077, the potential benefits of SDX or any other product candidates, and KemPharm's forecasted cash runway. These forward-looking statements are based on information currently available to KemPharm and its current plans or expectations and are subject to a number of known and unknown uncertainties, risks and other important factors that may cause our actual results, performance or achievements expressed or implied by the forward-looking statements. These and other important factors are described in detail in the "Risk Factors" section of KemPharm's Annual Report on Form 10-K for the year ended December 31, 2020, KemPharm's Quarterly Report for the quarter ended September 30, 2021, and KemPharm's other filings with the Securities and Exchange Commission.

While we may elect to update such forward-looking statements at some point in the future, except as required by law, we disclaim any obligation to do so, even if subsequent events cause our views to change. Although we believe the expectations reflected in such forward-looking statements are reasonable, we can give no assurance that such expectations will prove to be correct. These forward-looking statements should not be relied upon as representing our views as of any date subsequent to this presentation.

This presentation also may contain estimates and other statistical data made by independent parties and by us relating to market size and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. In addition, projections, assumptions and estimates of our future performance and the future performance of the markets in which we operate are necessarily subject to a high degree of uncertainty and risk.


KEMPHARM VALUE PROPOSITION
Innovative pharmaceutical company discovering and developing novel treatments for CNS and rare diseases
Two FDA approved and partnered medications, AZSTARYS® and APADAZ®, validate approach and science
Focus on high-value areas with significant unmet needs in CNS/rare disease with potential to internally commercialize

Focused on Creating Future Value in High Value Areas with Significant Unmet Needs; Solid Financial Foundation Creates Opportunities

Strategic Focus on CNS/Rare Disease	✓ Build a highly differentiated pipeline of development assets with multiple clinical and regulatory milestones ✓ Focus on high-value areas with significant unmet needs in CNS/rare disease with potential to internally commercialize
KP1077 for the Treatment of Idiopathic Hypersomnia (IH)	✓ High-value opportunity with significant unmet need; represents potential for meaningful near-term value ✓ Potential KemPharm commercial candidate
Other SDX Product Opportunities	✓ Versatility of the SDX family of product candidates could unlock significant value; "pipeline in a pill" ✓ Multiple potential indications with initial focus in sleep disorders
AZSTARYS® License	✓ Expanding launch of AZSTARYS provides ongoing revenue potential from royalties and milestones
Strong Balance Sheet	✓ Cash and equivalents of **$127.8M** as of Dec 31, 2021 ✓ Strong cash position supports development plan and other opportunities ✓ Combined with revenues, **cash runway extends to 2025 and beyond**

Pipeline of Product Candidates with Substantial Milestones in 2022 and Beyond

Indication	Product Candidate	Phase of Development	Anticipated Timing of Next Milestone
Rare Sleep Disorders			
Idiopathic Hypersomnia (IH)	KP1077	Phase 2	Q3 2022
Narcolepsy Type I and II	KP1077	Phase 2	Q4 2022
Sleep Disorders	TBD	In-licensing, acquisition or internal candidate	H2 2022
First-in-Class Therapy			
Stimulant Use Disorder (SUD)	KP879	Final Phase 1 Data	Q1 2022
In-licensed or Acquired Product(s)			
CNS or Related	TBD	Phase 2 or later	H2 2022

Upcoming Clinical, Reg and BD Milestones Create Potential Near-Term Value

Milestone	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
KP1077 for IH						
Type B meeting with FDA	x					
IND filing			x			
Phase 1 CV differentiation trial		x	x			
Phase 2 trial			x			x
KP1077 for Narcolepsy						
Type B meeting with FDA			x			
IND filing				x		
Phase 2/3 trial initiation				x		
KP879						
Final trial results	x					
Additional clinical stage candidate(s)						

*Note: "X" denotes an event, **blue** box denotes activity timeframe*

SDX Product Candidate: KP1077

For the Treatment of Idiopathic Hypersomnia (IH)

Idiopathic Hypersomnia (IH)

- There are 10.3 IH patients per 100,000 people in the US[1]
  - ~37,000 diagnosed IH patients actively seeking treatment[2]
  - Total population may be much larger (not seeking treatment, undiagnosed, misdiagnosed)
- Symptoms are highly debilitating – **IH can be more debilitating than narcolepsy**
  - Chronic daytime sleepiness
  - Long and unrefreshing naps
  - Extreme difficulty waking (sleep inertia and/or sleep drunkenness)
  - Severe brain fog
  - Some experience excessively long sleep times (~25% of patients "long sleepers", >10hrs)
- IH patients report memory problems, errors in habitual activities, mind blank and attention problems as part of their disability
  - KOLs identified depression as a common comorbidity encountered with patients
  - Patient survey data indicates that current medication effectiveness was poorly rated at 5.4/10[3]

Sources: (1) https://doi.org/10.1093/sleep/zsy061.624 (3) https://www.sleepcountshcp.com/idiopathic-hypersomnia-treatment-options
(2) https://www.sleepcountshcp.com/what-is-idiopathic-hypersomnia

If Differentiated, KP1077 Could Gain Significant Share if Priced Between Provigil® and Xywav®/Wakix®

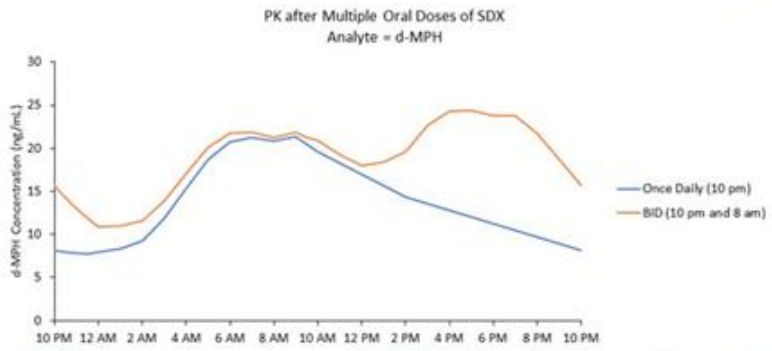
Brand Name Active Ingredient	Sponsor	DEA Schedule	Features	Annual Cost
Xywav (mixed oxybate salts)	Jazz	C-III	• Approved for IH; centrally acting depressant • Dosed twice at night; once before bed and another 4 hrs. later • 75% of patients in Xywav IH trial maintained or added stimulant treatment	**Highest dose $187,000/year**
Provigil/Nuvigil® (modafinil/armodafinil)*	Teva	C-IV	• Approved for treatment of EDS associated with narcolepsy • Numerous drug-drug interactions including with hormonal contraception and antidepressants • Serious adverse events include Stevens-Johnson Syndrome, angioedema, anaphylaxis and multi-organ hypersensitivity	**Provigil $24,000/year**
Various IR/ER methylphenidate products*	Various brands and generics	C-II	• Ritalin® indicated for the treatment of narcolepsy • Ritalin daily dose not to exceed 60 mg • Elevated blood pressure and heart rate; serious cardiovascular effects may also occur	**Varies ~$4,000-$5,000/year**
Wakix (pitolisant)*	Harmony Biosciences	Not Scheduled	• Approved for treatment of EDS or cataplexy in narcolepsy • Significant drug-drug interactions including antidepressants and antihistamines • Contraindicated in severe hepatic impairment • QT interval prolongation	**Highest dose $157,000/year**

Note: Information on this slide was located within each respective package insert; products potentially used off-label for IH are indicated with an *

KP1077 Product Candidate Overview

- 100% Serdexmethylphenidate (SDX) product with multiple dosing options depending on patient needs
  - Dosed either 1x (at bedtime) or 2x (at bedtime and upon waking)
- Features and benefits already demonstrated:
  - **SDX has already been designated C-IV by DEA**
  - No DDI potential especially with hormonal contraceptives and antidepressants
- Potential additional features and benefits to be studied:
  - **Greater tolerability** could allow for higher, more effective dosing (i.e. greater efficacy)
  - Dosing regimen addresses the two primary issues associated with IH
    - Night-time dosing addresses sleep inertia (waking)
    - Morning dosing addresses brain fog; considered most problematic symptom of IH
  - **Lessened effect on heart rate and blood pressure** vs. other MPH products
- Orphan drug designation potential
  - Fast-track eligible
  - Break-through designation eligible
- No generic equivalent and not substitutable; **solid IP through 2037** and potentially beyond

Predicted Pharmacokinetics for Two Potential Dosing Regimens of SDX (Once Daily or B.I.D)



Plasma concentrations were estimated based on data collected in study KP879.101

Predicted PK is shown for steady state of 240 mg SDX based on single oral dose of 240 mg SDX CI in KP879.101

KP1077 Value Proposition: Addressing Key Unmet Needs

- **Idiopathic hypersomnia is sometimes considered more debilitating than narcolepsy**
  - *Sleep inertia/waking*: nightly dosing provides increased d-methylphenidate (d-MPH) concentrations upon waking
  - *"Brain fog"*: morning dosing provides long-lasting d-MPH concentrations throughout the entire day
  - The PK profile of KP1077 dosed BID before bed and upon waking provides increased d-MPH concentrations early in the morning upon waking, increased concentrations in the afternoon and a steady concentration throughout the entire waking day
- **There are no approved stimulant therapies for the treatment of IH**
  - *No current therapy adequately addresses sleep inertia and brain fog:* KP1077 can address both AND as already suggested by recent trial results with SDX, at higher concentrations of d-MPH compared to other MPH and stimulant products. This is due to the slow release of d-MPH and lack of significant peaks in concentrations (C_{max}) post-administration. Higher, more tolerable doses of d-MPH may be more efficacious especially in treating brain fog.
  - Patient data shows that current treatments are not effective at controlling symptoms (see Slide 8)
  - Only one other product, Wakix® (pitolisant), is under development in IH

KP1077 Value Proposition: Addressing Key Unmet Needs

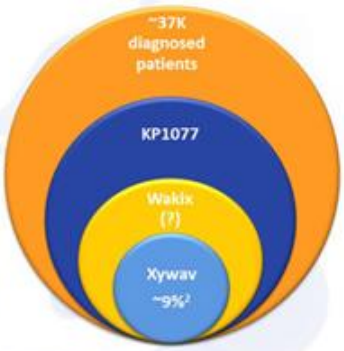
- **Many comorbidities and patient demographics complicate treatment; current off-label treatment options have significant limitations and provide limited symptom relief**
  - *Brain fog is so debilitating that current, tolerable stimulant treatment doses are inadequate*:
    - The ability to dose higher with fewer negative side-effects, including those associated with blood pressure (BP) and heart rate (HR), compared to current off-label treatments have the potential to more adequately address brain fog
  - *High BP and HR increases are associated with other stimulant treatments; could lead to dose limitations, discontinuation or contraindication (est. ~50% of US population has HBP)*[1]
    - Due to the unique pharmacokinetic profile of SDX, KP1077 may be demonstrably better than current stimulants including MPH products with regards to BP and HR
  - *Modafinil/armodafinil can interfere with contraception*:
    - SDX does not have drug interactions with contraception
  - *Depression is a common comorbidity with IH; modafinil/armodafinil and Wakix® both have significant drug interactions with the most commonly prescribed antidepressants*:
    - SDX does not interfere with antidepressant metabolism

(1) https://www.cdc.gov/bloodpressure

KP1077 Could Capture a Large Share of the IH Market Based on Potential Clinical Differentiation and Combination Use

- It is estimated that ~37K patients are currently diagnosed with IH and actively seeking treatment[1]
- Xywav® received FDA approval in August 2021 as the first therapy for IH
- According to analysts, Xywav projected sales are ~$300 million for IH by the end of 2025
  - Assuming an average price of ~$94K per patient per year, IH patient share for Xywav by 2025 is expected to be ~3,200 patients (~9% of diagnosed patients)[2]
- Potential factors that may result in higher adoption of KP1077, compared to Xywav or Wakix®:
  - **MOA and improved efficacy of KP1077:** positioned as a monotherapy and combination use with oxybate (Xyrem, Xywav or others)
  - **KP1077 safety profile**: Schedule IV, lack of drug-drug-interaction with hormonal contraceptives which is an issue with modafinil, reduced risk of adverse events compared to current off-label IH therapies
  - **Xywav barriers to uptake**: clinical trial discontinuation rate of ~11% due to treatment emergent adverse events, boxed warning for CNS depression, abuse and misuse potential, REMS program, negative stigma associated with GHB[3]
  - **Xywav promotion and disease awareness:** may result in expansion of diagnosed patient population (e.g., Jazz Pharmaceuticals and Hypersomnia Foundation launched a campaign to increase understanding and awareness about idiopathic hypersomnia in March 2021)[2]
  - **Wakix barriers to uptake:** DDI, especially with antidepressants and antihistamines

Illustrative Market Share based on Potential Differentiation



Sources: (1) https://www.sleepcountshco.com/what-is-idiopathic-hypersomnia
(2) https://investor.jazzpharma.com/investors/events-presentations
(3) https://www.reuters.com/business/healthcare-pharmaceuticals/us-fda-approves-jazz-pharmas-drug-excessive-daytime-sleepiness-2021-08-12/

Business Development Focus

Pipeline Additions through In-Licensing,
Other Product Opportunities

Pipeline Expansion Strategy to Accelerate Value Creation

- Our strategic focus, including review of internal development candidates, is guided by these criteria:
  - **Commercial Opportunity** (physician/KOL input, payor research, competitive landscape)
  - **Risk** (clinical, development, regulatory)
  - **Time, Cost and Need** (cost of development, timeline to approval, strategic considerations)
- External focus is primarily within the broad CNS/rare diseases space, including these examples:
  - **Neurology and neurodegenerative diseases**: Alzheimer's, Parkinson's and Huntington's Disease
  - **Psychiatric disorders**: indications focused on more niche market opportunities like psychedelics
  - **Rare diseases** and other niche markets
  - **Adjacent or related therapeutic categories**: gastroenterology, metabolic diseases, endocrinology
- Seeking assets in Phase 2 stage or later, subject to our evaluation criteria, for in-licensing/acquisition
  - Later stage clinical candidates can add clinical trial data catalysts, driving investor interest and, if successful, potential for value creation
  - Multi-channel development program with multiple product candidates diversifies risks and adds products for potential commercialization

Additional Serdexmethylphenidate (SDX) Opportunities

- SDX also provides an opportunity to explore indications outside ADHD and IH
  - SDX is the only C-IV methylphenidate-based product; all others are C-II
  - SDX has a unique PK profile allowing for gradual and continuous release throughout the day
  - Currently there is no generic equivalent and not substitutable
- SDX should provide benefit to patients with both Type I and II narcolepsy
  - Initiate clinical trial shortly after IH trial initiation
- As discussed previously and recent trial data suggested, SDX could potentially be a treatment option for Stimulant Use Disorder (SUD)
  - KP879 clinical trial data was compelling and scientific rationale still exists
  - Challenging and lengthy development program will be required
  - Seeking partnership with government, academia and/or industry to advance

Outlook and Milestones

Strong Foundation Built with AZSTARYS®
and a Solid Balance Sheet

AZSTARYS® Launch Gaining Traction with National Rollout and Strong Balance Sheet Supports Ongoing Development

- Recent wins in payor access has led Corium to accelerate their national rollout of AZSTARYS.
  - **As of Jan 1, 2021, over 100 million commercial and Medicaid** lives have access to AZSTARYS, which is 2x coverage from the beginning of October 2021[1]
  - Recent wins in payor access have contributed to Corium accelerating its national rollout of AZSTARYS
  - Full national field team staffing expected to be in place by end of Jan 2022 to support national rollout planned for Q1 2022
- Accelerating launch efforts will support KemPharm's potential for earning sales milestones in 2022
- Our balance sheet provides a solid foundation to support our ongoing development efforts
  - Cash and cash equivalents was **$127.8M** as of December 31, 2021
  - **Available capital combined with revenues extends cash runway through 2025 and beyond**
  - $50M share repurchase program in place through 2023
  - ATM has not been utilized and is available for targeted uses, but only if needed
  - We intend to convert current S-1 to an S-3 to eliminate requirement for continuous update filings

Source: (1) Estimate from Corium, Inc.

Clinical and Regulatory Milestones in 2022

Milestone	Q1 2022	Q2 2022	Q3 2022	Q4 2022
KP1077 for IH				
Type B meeting with FDA	x			
IND filing			x	
Phase 1 CV differentiation trial		x		
Phase 2 trial initiation			x	
KP1077 for Narcolepsy				
Type B meeting with FDA			x	
IND filing				x
Phase 2/3 trial initiation				x
KP879				
Final trial results	x			

*Note: "X" denotes an event, **blue** box denotes activity timeframe*

KemPharm: Looking Ahead

- ✓ Substantial high-value opportunity with significant unmet need
- ✓ IND filing in mid-2022, Phase 2 trial initiation as early as Q3 2022

Initiation of KP1077 Development Program

Opportunities to Further Expand Pipeline

- ✓ Continuing efforts to build a highly differentiated pipeline of development assets
- ✓ Focused on high-value areas with significant unmet needs in **CNS/rare disease** with potential to internally commercialize

- ✓ Full national team in place by end of Jan 2022
- ✓ **100M+ covered commercial and Medicaid lives** as of Dec 31, 2021
- ✓ Expanding launch of AZSTARYS supports revenue potential from royalties and milestones in 2022

AZSTARYS® Launch Gaining Traction

Strong Balance Sheet to Support Value Creation

- ✓ Cash and cash equivalents of **$127.8M** as of Dec 31, 2021
- ✓ Solid balance sheet supports development efforts and other pipeline expansion activities
- ✓ **Available capital + revenues extends cash runway through 2025 and beyond**