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): May 10, 2018

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.)**
2500 Crosspark Road, Suite E126 **Coralville, IA** **(Address of Principal Executive Offices)**		**52241** **(Zip Code)**

Registrant's Telephone Number, Including Area Code: (319) 665-2575

Not Applicable
(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 Instructions 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))

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 May 10, 2018, KemPharm, Inc., a Delaware corporation, or KemPharm, issued a press release announcing its corporate and financial results for the quarter ended March 31, 2018, as well as information regarding a conference call and live audio webcast with slide presentation to discuss these corporate and financial results. A copy of the press release and presentation are furnished as Exhibits 99.1 and 99.2, respectively, to this Current Report on Form 8-K. The information contained in the press release and presentation furnished as Exhibits 99.1 and 99.2, respectively, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and is not incorporated by reference into any of KemPharm's filings under the Securities Act of 1933, as amended, or the Exchange Act, whether made before or after the date hereof, except as shall be expressly set forth by specific reference in any such filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Press Release titled “KemPharm Announces Positive, Topline Results from an Intravenous Human Abuse Potential Trial with KP415 Prodrug; Reports Q1 2018 Results” dated May 10, 2018.
99.2	Presentation titled "Q1 2018 Results" dated May 10, 2018.

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 thereunto duly authorized.

KemPharm, Inc.

Date: May 10, 2018

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

Exhibit 99.1

KemPharm Announces Positive, Topline Results from an Intravenous Human Abuse Potential Trial with KP415 Prodrug; Reports Q1 2018 Results

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

Intravenous Human Abuse Potential Trial with KP415 Prodrug (KP415.A03) Clinical Findings:

- Following intravenous administration in recreational stimulant abusers, KP415 Prodrug demonstrated Drug Liking scores similar to placebo when administered up to the highest safe dose
- No statistically significant difference in mean Drug Liking E_{max} between KP415 Prodrug (57 points) and placebo (54 points)
- Statistically significant difference in mean Drug Liking E_{max} between KP415 Prodrug (57 points) and d-methylphenidate hydrochloride (84 points) at equimolar doses

Development & Regulatory Highlights:

- FDA approval announced for APADAZ™ (benzhydrocodone and acetaminophen) for the short-term management of acute pain on February 23, 2018
- Positive topline results from KP415 pharmacokinetic study in children and adolescents with ADHD
- Patents granted for KP606 and for the KP511-related family

Corporate & Financial Highlights:

- Net loss of $1.77 per basic and diluted share for the quarter ended March 31, 2018, compared to net loss of $1.11 per basic and diluted share for the quarter ended March 31, 2017
- Total cash and security-related amounts were $37.2 million at March 31, 2018

Coralville, IA – May 10, 2018 – KemPharm, Inc. (NASDAQ: KMPH), a specialty pharmaceutical company engaged in the discovery and development of proprietary prodrugs, today announced topline results from the first of three pivotal human abuse potential trials for the KemPharm's product candidate, KP415, which is based on a prodrug of d-methylphenidate for the treatment of attention deficit/hyperactivity disorder (ADHD), as well as its corporate and financial results for the quarter ended March 31, 2018.

"The results from our first pivotal human abuse potential trial for the prodrug contained within KP415 and KP484 (KP415 Prodrug) could not have been better," said Travis Mickle, Ph.D., President and Chief Executive Officer of KemPharm. "The prodrug itself was not readily converted to the active d-methylphenidate when injected and as a result, produced pharmacodynamic effects that were comparable to placebo based on multiple endpoints of the study. Since lower abuse potential abuse is one of the key elements of the potential value that KP415 and KP484 would bring to the market, we believe these data truly differentiate our prodrug from current stimulant-based ADHD products."

KP415.A03 is the first of three human abuse potential trials to be completed and was conducted with the prodrug contained in both KP415 and KP484 (KP415 Prodrug). This single-center study was designed to measure the pharmacokinetics and pharmacodynamic effects of KP415 Prodrug, d-methylphenidate hydrochloride and placebo after intravenous (IV) administration in recreational stimulant users. KP415 Prodrug and d-methylphenidate hydrochloride were dosed at equimolar (equivalent) levels. KP415 Prodrug demonstrated statistically significant differences compared to d-methylphenidate hydrochloride in the primary endpoint, maximal Drug Liking (E_{max}), and no statistical difference compared to placebo. Secondary endpoints including E_{max} of Overall Drug Liking, Feeling High, and Good Effects were also significantly reduced for KP415 Prodrug compared to d-methylphenidate hydrochloride, and similar for KP415 Prodrug compared to placebo. Additionally, E_{max} of Take Drug Again was statistically lower for KP415 Prodrug compared to d-methylphenidate hydrochloride. Collectively, these findings indicate that IV administration of the KP415 Prodrug resulted in effects that were statistically similar to placebo as measured by multiple endpoints that are commonly used to assess human abuse potential.

“These data, combined with the upcoming efficacy study results for KP415 and the oral and intranasal human abuse potential trials, represent major milestones in the clinical development of KP415 and KP484 while still allowing us to file the New Drug Application for KP415 as soon as the first quarter of 2019,” Mickle added. “2018 continues to be a transformative year for KemPharm with the rapid advancement of KP415, as well as the approval of APADAZ™. We expect that the coming quarters will be even more remarkable with additional pivotal data for KP415, potential partnering and commercial activities, as well as the advancement of our R&D pipeline.”

Q1 2018 Financial Results:

For the quarter ended March 31, 2018, KemPharm’s reported net loss was $26.2 million, or $1.77 per basic and diluted share, compared to net loss of $16.3 million, or $1.11 per basic and diluted share, for the same period in 2017. Net loss for Q1 2018 was driven primarily by a loss from operations of $14.8 million, net interest expense and other items of $1.7 million, and non-cash fair value adjustment expense of $9.7 million. Loss from operations increased from $7.4 million in Q1 2017 to $14.8 million in Q1 2018, which was primarily due to an increase of $7.5 million in research and development expenses, partially offset by a decrease of $0.1 million in general and administrative expenses.

As of March 31, 2018, total cash and security-related amounts, which is comprised of cash, cash equivalents, restricted cash, marketable securities, trade date receivables, and long-term investments was $37.2 million, which reflected a decrease of $11.4 million compared to December 31, 2017.

Conference Call Information:

KemPharm will host a conference call and live audio webcast with slide presentation on Thursday, May 10, 2018, at 4:30 p.m. ET, to discuss its corporate and financial results for the first quarter of 2018. Interested participants and investors may access the conference call by dialing either:

- (866) 395-2480 (U.S.)
- (678) 509-7538 (international)
- Conference ID: 3649247

The live webcast with accompanying slides will be accessible via the Investor Relations section of the KemPharm website http://investors.kempharm.com/. An archive of the webcast and presentation will remain available for 90 days beginning at approximately 5:30 p.m. ET, on May 10, 2018.

Recent and Q1 2018 Activities:

- **Human Abuse Potential Trial Results – Preliminary Analysis Suggests IV Administration of KP415 Prodrug Has No Human Abuse Potential When Administered up to the Highest Safe Dose**

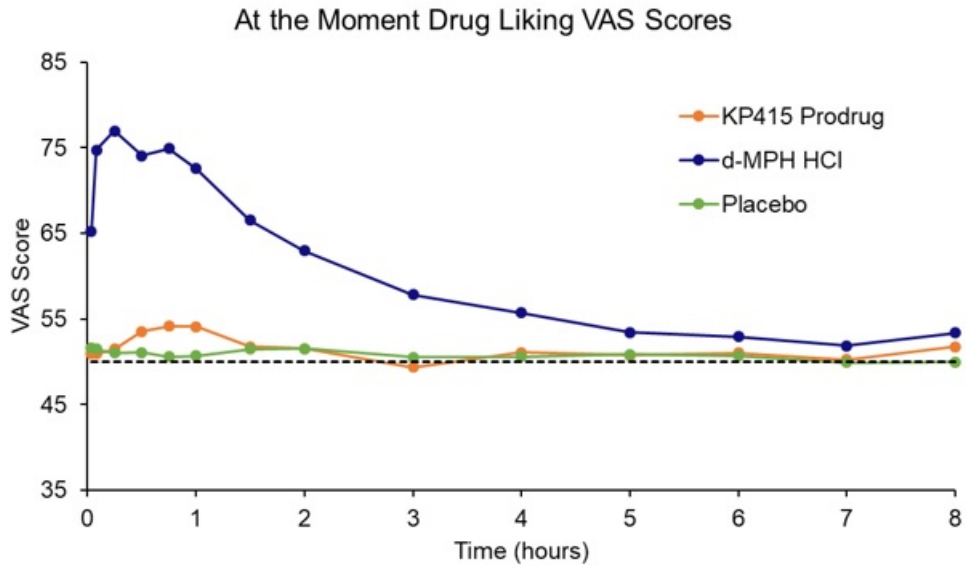
  In the KP415.A03 trial, KemPharm assessed the abuse potential of the KP415 Prodrug after IV injection in recreational stimulant users with a history of non-oral abuse of stimulants. The prodrug was compared to an active control of IV d-methylphenidate hydrochloride (d-MPH HCl) and an IV placebo. KP415.A03 was a comprehensive, FDA-reviewed, double-blinded, randomized, crossover-design trial that included participant screening, drug discrimination, and treatment phases. There were 30 subjects enrolled in the trial who received molar equivalent doses of KP415 Prodrug, d-MPH HCl or placebo.

  The primary endpoint was Drug Liking E_{max} measured on a bipolar Visual Analog Scale (VAS). This endpoint was met as d-MPH exposure was dramatically lower following IV administration of the KP415 Prodrug relative to IV d-MPH HCl. Conversion of the KP415 Prodrug to d-MPH HCl was very limited, with peak exposure being approximately five-fold lower when compared to d-MPH HCl.

  Consistent with these observations, post-dose Drug Liking scores remained within the placebo range throughout the entire time course. Preliminary data indicate that Drug Liking scores were:

  - Significantly higher statistically for d-MPH HCl compared to placebo (demonstrating trial validity)
  - Significantly lower statistically for KP415 Prodrug compared to d-MPH HCl
  - Statistically similar for KP415 Prodrug compared to placebo

The pharmacokinetic and pharmacodynamic profiles obtained in this preliminary analysis suggest that IV administration of the KP415 Prodrug in recreational stimulant users results in abuse-related effects that are significantly reduced when compared to d-MPH HCl. Multiple endpoints commonly used to assess abuse potential were similar for the comparison of KP415 Prodrug and placebo when administered intravenously at equimolar doses (with respect to d-MPH HCl content) to the highest safe dose of IV d-MPH HCl used in this trial. The detailed results from the trial are shown in the chart below.



Note: d-MPH HCl = dexmethylphenidate hydrochloride
Drug Liking was assessed on a bipolar scale
(0 = Strong Disliking. 50 = Neutral, 100 = Strong Liking
Subjects received equimolar does of KP415 Prodrug and d-MPH HCl

- **Announced FDA Approval of APADAZ (benzhydrocodone and acetaminophen) for the Short-Term Management of Acute Pain**

  On February 23, 2018, KemPharm announced that the U.S. Food and Drug Administration (FDA) approved its New Drug Application (NDA) for APADAZ for the short-term (no more than 14 days) management of acute pain severe enough to require an opioid analgesic and for which alternative treatments are inadequate. APADAZ is an immediate release (IR) combination of KemPharm's prodrug, benzhydrocodone, and acetaminophen (APAP).

- **Announced Positive Topline Results from KP415 Pharmacokinetic Study in Children and Adolescents with ADHD**

  On March 20, 2018, KemPharm announced that topline results from its ongoing pediatric and adolescent pharmacokinetic (PK) study (KP415.105) suggest that following oral administration of its KP415 product candidate, exposure to d-methylphenidate is predictable in patients with attention-deficit/hyperactivity disorder (ADHD) between the ages of 6 and 17 years. We believe these topline data may permit the conduct of a single efficacy study in the established classroom-style ADHD trial design in pediatric patients without resulting in a label indication that is limited to pediatric patients only.

- **Granted Patent for KP606, a Prodrug of Oxycodone; Additional Patent Granted for the KP511-related family**

  On January 23, 2018, KemPharm announced further enhancements to its U.S. and global intellectual property estate governing its portfolio of prodrug product candidates with the receipt of an initial patent issued for KP606, KemPharm's prodrug of oxycodone (U.S. Patent No. 9,850,252), as well as an additional composition of matter patent to enhance the existing family of patents related to KP511 (U.S. Patent 9,849,185).

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) platform technology. KemPharm utilizes its proprietary LAT platform technology to generate improved prodrug versions of FDA-approved drugs in the high need areas of ADHD, pain and other central nervous system disorders. KemPharm's co-lead clinical development candidates are KP415 and KP484, both based on a prodrug of methylphenidate, but with differing extended-release/effect profiles for the treatment of ADHD. In addition, KemPharm has received FDA approval for APADAZ™, an immediate-release combination product candidate of benzhydrocodone, a prodrug of hydrocodone, and acetaminophen. KemPharm is also advancing KP201/IR, an acetaminophen-free immediate-release formulation of the Company's benzhydrocodone prodrug candidate. Both APADAZ and KP201/IR are intended for the treatment of acute pain severe enough to require an opioid analgesic and for which alternative treatments are inadequate. 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.

APADAZ

APADAZ was developed from KemPharm's proprietary LAT (Ligand Activated Therapy) platform technology and is intended for the short-term (no more than 14 days) management of acute pain severe enough to require an opioid analgesic and for which alternative treatments are inadequate. KemPharm believes APADAZ is unique among prescription opioids in that it contains a prodrug that is chemically inert, or inactive, on its own. When ingested, enzymes in the gastrointestinal tract cleave the ligand from the prodrug (benzhydrocodone) and release the parent drug (hydrocodone), which can then exert its therapeutic effect. The final approved product labeling for APADAZ includes these and other data points but concludes that the overall results of the clinical program did not demonstrate abuse-deterrence by current measurement standards.

The approval of APADAZ via the 505(b)(2) pathway was based in part on pharmacokinetic studies with Vicoprofen®, Ultracet®, and Norco® in which APADAZ demonstrated exposure to hydrocodone and acetaminophen (APAP) that is expected to result in therapeutic effects equivalent to currently approved immediate-release hydrocodone/APAP combination products when administered orally as intended.

Indication:
APADAZ contains an opioid agonist and acetaminophen and is indicated for the short-term (no more than 14 days) management of acute pain severe enough to require an opioid analgesic and for which alternative treatments are inadequate.

Limitations of Use:
Because of the risks of addiction, abuse, and misuse with opioids, even at recommended doses, reserve APADAZ for use in patients for whom alternative treatment options [e.g., non-opioid analgesics] have not been or are not expected tolerated, or have not provided adequate analgesia, or are not expected to provide adequate analgesia.

Important Safety Information:

APADAZ is contraindicated in patients with: significant respiratory depression; acute or severe bronchial asthma in an unmonitored setting or in absence of resuscitative equipment; known or suspected gastrointestinal obstruction, including paralytic ileus; and hypersensitivity to hydrocodone or acetaminophen.

APADAZ contains benzhydrocodone, a Schedule II controlled substance. APADAZ can be abused and is subject to misuse, addiction, and criminal diversion.

Potential risks associated with APADAZ include addiction, abuse, and misuse, life-threatening respiratory depression, neonatal opioid withdrawal syndrome, risks of concomitant use or discontinuation of cytochrome P450 CYP3A4 inhibitors and inducers, acetaminophen hepatoxicity risks from concomitant use with benzodiazepines or other central nervous system (CNS) depressants, risk of life-threatening respiratory depression in patients with chronic pulmonary disease or in elderly, cachectic, or debilitated patients, adrenal insufficiency, severe hypotension, serious skin reactions, risks of use in patients with increased intracranial pressure, brain tumors, head injury, or impaired consciousness, hypersensitivity/anaphylaxis, risks of use in patients with gastrointestinal conditions, risk of use in patients with seizure disorders, and withdrawal, risks of driving and operating machinery.

Potential drug interactions with APADAZ include:

- Serotonergic Drugs: Concomitant use may result in serotonin syndrome. Discontinue APADAZ if serotonin syndrome is suspected.
- Mixed Agonist/Antagonist and Partial Agonist Opioid Analgesics: Avoid use with APADAZ because they may reduce analgesic effect of APADAZ or precipitate withdrawal symptoms.
- Monoamine Oxidase Inhibitors (MAOIs): Can potentiate the effects of hydrocodone. Avoid concomitant use in patients receiving MAOIs or within 14 days of stopping treatment with an MAOI.

Most common adverse reactions (>5%) are nausea, somnolence, vomiting, constipation, pruritus, dizziness, and headache.

The Full Prescribing Information for APADAZ contains the following Boxed Warning:

WARNING: ADDICTION, ABUSE, AND MISUSE; LIFE-THREATENING RESPIRATORY DEPRESSION; ACCIDENTAL INGESTION; NEONATAL OPIOID WITHDRAWAL SYNDROME; CYTOCHROME P450 3A4 INTERACTION; HEPATOTOXICITY; and RISKS FROM CONCOMITANT USE WITH BENZODIAZEPINES OR OTHER CNS DEPRESSANTS

Addiction, Abuse, and Misuse:

APADAZ exposes patients and other users to the risks of opioid addiction, abuse, and misuse, which can lead to overdose and death. Assess each patient's risk prior to prescribing APADAZ and monitor all patients regularly for the development of these behaviors and conditions.

Life-Threatening Respiratory Depression:

Serious, life-threatening, or fatal respiratory depression may occur with use of APADAZ. Monitor for respiratory depression, especially during initiation of APADAZ or following a dose increase.

Accidental Ingestion:

Accidental ingestion of even one dose of APADAZ, especially by children, can result in a fatal overdose of hydrocodone.

Neonatal Opioid Withdrawal Syndrome:

Prolonged use of APADAZ during pregnancy can result in neonatal opioid withdrawal syndrome, which may be life-threatening if not recognized and treated, and requires management according to protocols developed by neonatology experts. If prolonged opioid use is required in a pregnant woman, advise the patient of the risk of neonatal opioid withdrawal syndrome and ensure that appropriate treatment will be available.

Cytochrome P450 3A4 Interaction:

The concomitant use of APADAZ with all cytochrome P450 3A4 inhibitors may result in an increase in hydrocodone plasma concentrations, which could increase or prolong adverse reactions and may cause potentially fatal respiratory depression. In addition, discontinuation of a concomitantly used cytochrome P450 3A4 inducer may result in an increase in hydrocodone plasma concentration. Monitor patients receiving APADAZ and any CYP3A4 inhibitor or inducer.

Hepatotoxicity:

APADAZ contains acetaminophen. Acetaminophen has been associated with cases of acute liver failure, at times resulting in liver transplant and death. Most of the cases of liver injury are associated with the use of acetaminophen at doses that exceed 4000 milligrams per day, and often involve more than one acetaminophen-containing product.

Risks From Concomitant Use With Benzodiazepines Or Other CNS Depressants:

Concomitant use of opioids with benzodiazepines or other CNS depressants, including alcohol, may result in profound sedation, respiratory depression, coma, and death.

- Reserve concomitant prescribing of APADAZ and benzodiazepines or other CNS depressants for use in patients for whom alternative treatment options are inadequate.
- Limit dosages and durations to the minimum required.
- Follow patients for signs and symptoms of respiratory depression and sedation.

For Important Safety Information including full prescribing information, visit: www.kempharm.com

Caution Concerning Forward Looking Statements:

This press release may contain forward-looking statements made in reliance upon the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements include all statements that do not relate solely to historical or current facts, and can be identified by the use of words such as “may,” “will,” “expect,” “project,” “estimate,” “anticipate,” “plan,” “believe,” “potential,” “should,” “continue” or the negative versions of those words or other comparable words. Forward-looking statements are not guarantees of future actions or performance. 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 uncertainties and risks that could significantly affect current plans. Risks concerning KemPharm’s business are described in detail in KemPharm’s Annual Report on Form 10-K for the year ended December 31, 2017, and KemPharm’s other Periodic and Current Reports filed with the Securities and Exchange Commission. KemPharm is under no obligation to (and expressly disclaims any such obligation to) update or alter its forward-looking statements, whether as a result of new information, future events or otherwise.

Investor Contacts:
Jason Rando / Joshua Drumm, Ph.D.
Tiberend Strategic Advisors, Inc.
212-375-2665 / 2664
jrando@tiberend.com
jdrumm@tiberend.com

Media Contact:
Daniel L. Cohen
Executive VP, Government and Public Relations
KemPharm, Inc.
202-329-1825
dcohen@kempharm.com

KEMPHARM, INC.
UNAUDITED CONDENSED STATEMENTS OF OPERATIONS
(in thousands, except share and per share amounts)

	Three months ended March 31,	
	2018	**2017**
Revenue	$ —	$ —
Operating expenses:		
Research and development	11,637	4,114
General and administrative	3,132	3,266
Total operating expenses	14,769	7,380
Loss from operations	(14,769)	(7,380)
Other (expense) income:		
Interest expense related to amortization of debt issuance costs and discount	(390)	(390)
Interest expense on principal	(1,442)	(1,441)
Fair value adjustment related to derivative and warrant liability	(9,741)	(7,216)
Interest and other income, net	115	101
Total other (expense) income	(11,458)	(8,946)
Loss before income taxes	(26,227)	(16,326)
Income tax benefit	8	4
Net loss	$ (26,219)	$ (16,322)
Net loss per share:		
Basic and diluted	$ (1.77)	$ (1.11)
Weighted average number of shares of common stock outstanding:		
Basic and diluted	14,791,882	14,646,982

KEMPHARM, INC.
CONDENSED BALANCE SHEETS
(in thousands, except share and par value amounts)

	March 31, 2018 (unaudited)	December 31, 2017
Assets		
Current assets:		
Cash and cash equivalents	$ 8,750	$ 10,871
Restricted cash	1,100	1,100
Marketable securities	25,873	31,358
Trade date receivables	1,511	2,005
Prepaid expenses and other current assets	1,845	1,662
Total current assets	39,079	46,996
Property and equipment, net	1,924	2,004
Long-term investments	—	3,250
Other long-term assets	1,646	206
Total assets	$ 42,649	$ 52,456
Liabilities and stockholders' deficit		
Current liabilities:		
Accounts payable and accrued expenses	$ 10,177	$ 7,875
Current portion of convertible notes	3,333	3,333
Current portion of capital lease obligation	187	189
Other current liabilities	113	112
Total current liabilities	13,810	11,509
Convertible notes, less current portion, net	89,788	89,398
Derivative and warrant liability	17,450	7,709
Capital lease obligation, less current portion	515	562
Other long-term liabilities	769	794
Total liabilities	122,332	109,972
Stockholders' deficit:		
Common stock, $0.0001 par value, 250,000,000 shares authorized, 15,104,848 shares issued and outstanding as of March 31, 2018 (unaudited); 14,657,430 shares issued and outstanding as of December 31, 2017	2	1
Additional paid-in capital	111,260	107,209
Preferred stock, $0.0001 par value, 10,000,000 shares authorized, no shares issued or outstanding as of March 31, 2018 (unaudited) or December 31, 2017	—	—
Accumulated deficit	(190,945)	(164,726)
Total stockholders' deficit	(79,683)	(57,516)
Total liabilities and stockholders' deficit	$ 42,649	$ 52,456

Q1 2018 Results

May 10, 2018

Cautionary Note Regarding Presentation Information

This presentation contains forward-looking statements, including statements about our plans to develop and commercialize our product candidates, our planned clinical trials for our prodrug product candidates, the timing of and our ability to obtain and maintain regulatory approvals for our product candidates, including expectations about our ability to use the 505(b)(2) pathway and expedited FDA review, the clinical utility of our product candidates and our intellectual property position. These statements involve substantial known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. The forward-looking statements in this presentation represent our views as of the date of this presentation. These and other risks concerning our business are described in additional detail in our Annual Report on Form 10-K for the year ended December 31, 2017, our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, and our other Periodic and Current Reports filed with the Securities and Exchange Commission. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this presentation. Further, the information contained in this presentation speaks only as the date hereof. While we may elect to update the information in this presentation in the future, we disclaim any obligation to do so except to the extent required by applicable law.

This presentation also contains 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.

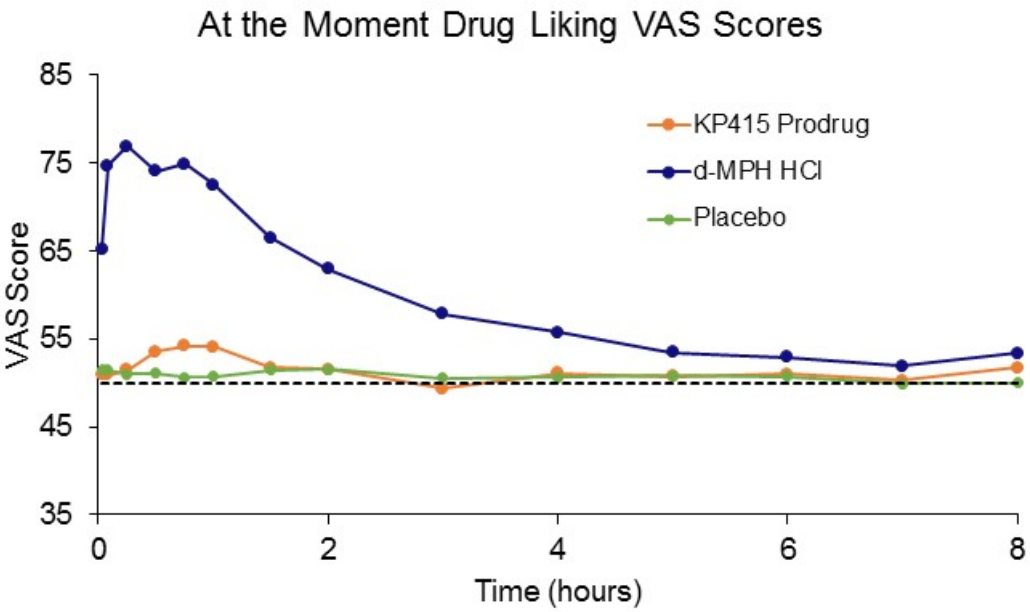
Q1 2018 Results Call Participants

- **Travis Mickle, Ph.D.** – President & Chief Executive Officer
- **R. LaDuane Clifton, CPA** – Chief Financial Officer, Secretary & Treasurer
- **Dan Cohen, M.A.L.S.** – EVP, Government & Public Relations

Recent Development and Regulatory Updates

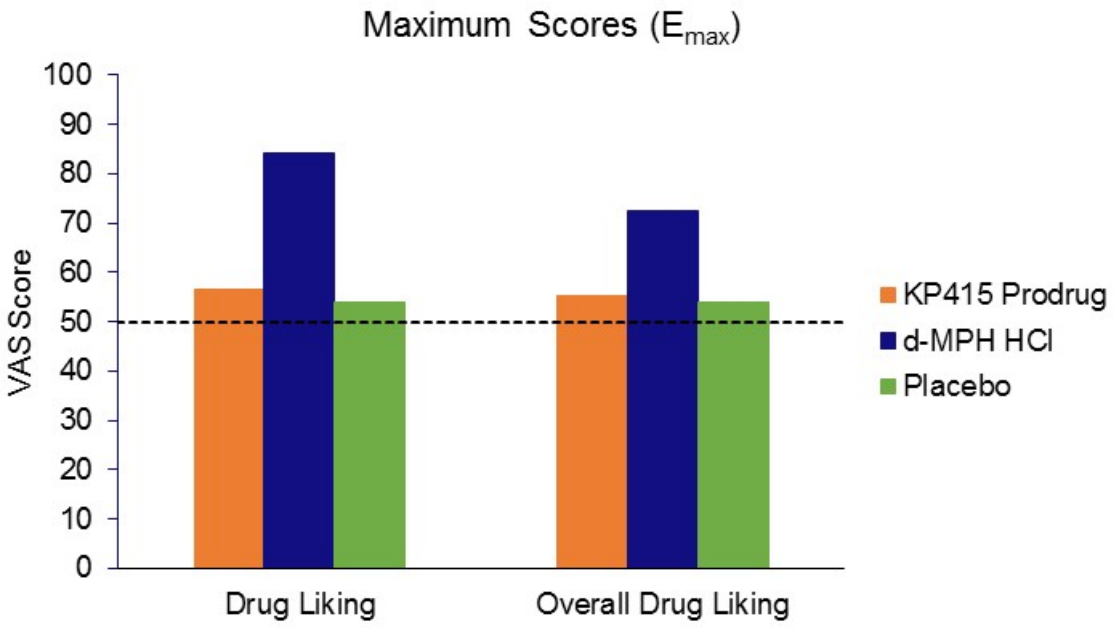
- Announced Positive, Topline Results from an Intravenously (IV) Administered KP415 Prodrug Human Abuse Potential Trial
- Announced FDA Approval of APADAZ™ for the Short-Term Management of Acute Pain
- Announced Positive Topline Results from KP415 PK Study in Children and Adolescents with ADHD
- Patents Granted for KP606, KP511-related Family

Drug Liking VAS after IV Injection of KP415 Prodrug



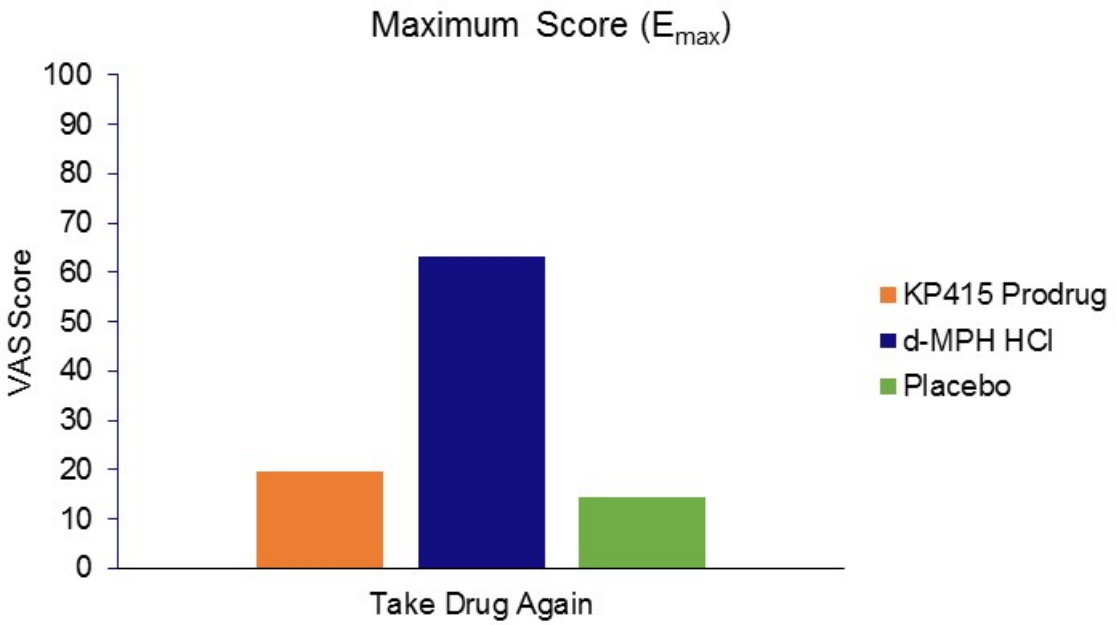
Note: d-MPH HCl = dexmethylphenidate hydrochloride
Drug Liking was assessed on a bipolar scale
(0 = Strong Disliking, 50 = Neutral, 100 = Strong Liking)
Subjects received equimolar doses of KP415 Prodrug and d-MPH HCl

Key Abuse Endpoints after IV Injection of KP415 Prodrug



Note: d-MPH HCl = dexmethylphenidate hydrochloride
Drug Liking and Overall Drug Liking were assessed on a bipolar scale (0 = Strong Disliking, 50 = Neutral, 100 = Strong Liking)
Subjects received equimolar doses of KP415 Prodrug and d-MPH HCl

Key Abuse Endpoints after IV Injection of KP415 Prodrug



Note: d-MPH HCl = dexmethylphenidate hydrochloride
Take Drug Again was assessed on a unipolar scale
(0 = Definitely Not, 100 = Definitely Yes)
Subjects received equimolar doses of KP415 Prodrug and d-MPH HCl

ADHD Prodrug Product Pipeline – Addressing Unmet Needs

KP415 – ADHD Product Candidate for Fast Onset and Longer Total Duration

- Unmet needs identified by physicians in order of importance:
  - Duration of efficacy
  - Less abuse potential
  - Onset of efficacy
- Extended release product candidate
- Prodrug of d-MPH co-formulated with IR d-MPH
- Pivotal efficacy trial initiated examining onset and duration of effect
- IV HAP data indicates little to no abuse potential of the KP415 Prodrug; Oral and Intranasal data to come

KP484 – ADHD Product Candidate with Super Extended Release Properties

- Similar unmet needs with the benefit of a methylphenidate based product
- Super-extended release product candidate
- Prodrug of d-MPH
- IND accepted; Efficacy studies expected to initiate in 2018
- Initial data suggest PK profile similar to Shire's MYDAYIS™ (amphetamine-based)
- Expect to benefit from KP415's development program

KemPharm Near-Term Product Candidates

Category	Product Candidate	Parent Drug	Development Status	Next Milestone	Potential NDA Submission
ADHD	KP415	Methylphenidate (ER)	Clinical	PK + Efficacy Data	Q1 2019
	KP484	Methylphenidate (ER)	Clinical	PK + Efficacy Data	2019
PAIN	Apadaz™	Hydrocodone/ APAP	FDA Approved	Commercial Partnerships	N/A
	KP201/IR	Hydrocodone	Clinical	IN HAL Data	2019 with Priority Review
	KP511/ER	Hydromorphone	Clinical	POC in ER Formulation	2019 with Priority Review
	KP511/IR	Hydromorphone	Clinical	HAL and BE Data	2019 with Priority Review

Q1 2018 Financial Results

- Q1 2018 net loss of $26.2M, or $1.77 per basic and diluted share, vs. Q1 2017 net loss of $16.3M, or $1.11 per basic and diluted share
- Net loss for Q1 2018 was primarily due to loss from operations of $14.8M, net interest expense and other items of $1.7M, and non-cash fair value adjustment expense of $9.7M
- Loss from operations increased to $14.8M for Q1 2018 compared to $7.4M for Q1 2017, which was primarily due to an increase of $7.5M in research and development expenses, offset by a decrease of $0.1M in general and administrative expenses
- As of March 31, 2018, total cash and security-related items[1] was $37.2M, which was a decrease of $11.4M compared to December 31, 2017
- Based on the Company's current forecast, existing resources are expected to fund operating expenses and capital expenditure requirements into, but not through, Q1 2019

1 - Includes cash, cash equivalents, restricted cash, marketable securities, trade date receivables and long-term investments

KemPharm Expected Timelines

Product	Event	Date	
KP484	IND Filing	2017	✓
KP415	Initiate Pivotal Efficacy Study	2017	✓
Apadaz™	FDA Approval	02/23/18	✓
KP415 / KP484	IV Human Abuse Liability (HAL) Data	Q2 2018	✓
KP415	Pivotal Efficacy Study Results	Mid-2018	
KP484	Initiate Pivotal Efficacy Study	2H 2018	
KP415 / KP484	Oral and IN HAL Data	2H 2018	
KP415	NDA Submission	1H 2019	
KP484	Pivotal Efficacy Study Results	2019	
KP484	NDA Submission	2019	

KemPharm

Q1 2018 Results

May 10, 2018