Zynerba Pharmaceuticals Announces Initiation of Phase 2 Trial of Zygel™ in 22q11.2 Deletion Syndrome

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Topline Data from the INSPIRE Trial Expected in the First Half 2020

DEVON, Pa., May 29, 2019 (GLOBE NEWSWIRE) -- Zynerba Pharmaceuticals, Inc. (NASDAQ:ZYNE), the leader in innovative pharmaceutically-produced transdermal cannabinoid therapies for rare and near-rare neuropsychiatric disorders, today announced that it has initiated the Phase 2 INSPIRE (Assessing the **I**mpact of Zygel [Tra**ns**dermal CBD Gel] on **P**ediatr**i**c Behavio**r**al and **E**motional Symptoms of 22q11.2 Deletion Syndrome) trial. The INSPIRE trial will assess the safety, tolerability and efficacy of Zygel (ZYN002 CBD gel) for the treatment of behavioral symptoms of 22q11.2 Deletion Syndrome (22q). The Company expects to present topline data from this study in the first half of 2020.

"Children born with 22q often require surgeries to rectify acute physical concerns, like anomalies of the heart and palate; once corrected, there are a myriad of behavioral symptoms that need to be addressed," said Armando Anido, Chairman and Chief Executive Officer of Zynerba. "Parents of children with 22q report significantly higher rates of withdrawn behavior, affective disorders, pervasive developmental problems and anxiety in their children compared to non-affected children. There is also an increased risk of developing psychoses such as schizophrenia later in life, compared to the general population. We are very excited to initiate the INSPIRE trial to assess the potential impact of Zygel in these children and adolescents, and look forward to presenting topline data in the first half of 2020."

The 14-week INSPIRE trial is an open-label multi-dose Phase 2 clinical trial designed to evaluate the efficacy and safety of Zygel in approximately 20 children and adolescents (ages six through 17) with genetically-confirmed 22q. Enrolled patients will receive weight-based doses of 250 mg daily or 500 mg daily of Zygel. The efficacy assessments include the Aberrant Behavior Checklist-Community (ABC-C), the Anxiety, Depression and Mood Scale (ADAMS), the Columbia Suicide Severity Rating scale (C-SSRS), the Qualitative Caregiver Reported Behavioral Problem Survey, and Clinical Global Impression – Severity and Improvement.

About 22q11.2 Deletion Syndrome (22q)
As the second most common chromosomal disorder after Down syndrome, 22q is caused by a small missing piece of the 22nd chromosome. The deletion occurs near the middle of the chromosome at a location designated q11.2. It is considered a mid-line condition, with physical symptoms including characteristic palate abnormalities, heart defects, immune dysfunction, and esophageal / GI issues, as well as debilitating neuropsychiatric and behavioral challenges. Anxiety is among the most common neuropsychiatric symptoms of 22q and researchers have found that for children with 22q, anxiety is linked to poorer adaptive behaviors such as self-care and communication skills that affect daily life. Children with 22q also experience withdrawn behavior, ADHD, cognitive impairment, and autism spectrum disorder that affect communication and social interaction. Later in life, they are at an increased risk of developing mental illnesses such as schizophrenia. It is estimated that 22q occurs in between one in 3,000 and one in 6,000 live births, suggesting that there are approximately 81,000 people living with 22q in the U.S.

About Zygel™
Zygel (CBD gel) is the first and only pharmaceutically-manufactured CBD formulated as a patent-protected permeation-enhanced clear gel, designed to provide controlled drug delivery into the bloodstream transdermally (i.e. through the skin). Recent studies suggest that Fragile X Syndrome (FXS) and other neuropsychiatric conditions may be associated with a disruption in the endocannabinoid (EC) system. Clinical and anecdotal data suggest that CBD may modulate the EC system and improve certain core social and behavioral symptoms, including social avoidance (prefers isolation from others, prefers solitary activities, avoids new social activities), irritability (aggressive to others, tantrums/outbursts, and stubbornness), social unresponsiveness/lethargy (lack of attention/interaction, inactive/lack of movement and can resist physical contact), and anxiety.

Zygel has been designated a Fast Track development program by the U.S. Food and Drug Administration for treatment of behavioral symptoms of FXS. Enrollment is ongoing in CONNECT-FX, a multi-national, randomized, double blind placebo controlled pivotal clinical trial of Zygel in FXS (https://www.connectfxtrial.com/); topline data are expected in the second half of 2019. Additionally, Zynerba expects topline data from its Phase 2 open label BELIEVE 1 trial of Zygel in developmental and epileptic encephalopathies (DEE) in the third quarter of 2019. Zynerba has also initiated the Phase 2 BRIGHT trial in Autism Spectrum Disorder and the Phase 2 INSPIRE trial in 22q11.2 Deletion Syndrome, with data expected from both studies in the first half of 2020.

About Zynerba Pharmaceuticals, Inc.
Zynerba Pharmaceuticals is the leader in pharmaceutically-produced transdermal cannabinoid therapies for rare and near-rare neuropsychiatric disorders. We are committed to improving the lives of patients and their families living with severe, chronic health conditions including Fragile X Syndrome, Autism Spectrum Disorder, 22q11.2 Deletion Syndrome, and a heterogeneous group of rare and ultra-rare epilepsies known as developmental and epileptic encephalopathies. Learn more at www.zynerba.com and follow us on Twitter at @ZynerbaPharma.

Cautionary Note on Forward-Looking Statements
This press release contains forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. We may, in some cases, use terms such as "predicts," "believes," "potential," "proposed," "continue," "estimates," "anticipates," "expects," "plans," "intends," "may," "could," "might," "will," "should" or other words that convey uncertainty of future events or outcomes to identify these forward-looking statements. Such statements are subject to numerous important factors, risks and uncertainties that may cause actual events or results to differ materially from the Company's current expectations. For example, there can be no guarantee that the Company will obtain approval for Zygel from the U.S. Food and Drug Administration (FDA) or foreign regulatory authorities; even if Zygel is approved, the Company may not be able to obtain the label claims that it is seeking from the FDA. Management's expectations and, therefore, any forward-looking statements in this press release could also be affected by risks

and uncertainties relating to a number of other factors, including the following: the Company's cash and cash equivalents may not be sufficient to support its operating plan for as long as anticipated; the Company's ability to obtain additional funding to support its clinical development programs; the results, cost and timing of the Company's clinical development programs, including any delays to such clinical trials relating to enrollment or site initiation; clinical results for the Company's product candidates may not be replicated or continue to occur in additional trials and may not otherwise support further development in a specified indication or at all; actions or advice of the FDA and foreign regulatory agencies may affect the design, initiation, timing, continuation and/or progress of clinical trials or result in the need for additional clinical trials; the Company's ability to obtain and maintain regulatory approval for its product candidates, and the labeling under any such approval; the Company's reliance on third parties to assist in conducting pre-clinical and clinical trials for its product candidates; delays, interruptions or failures in the manufacture and supply of the Company's product candidates the Company's ability to commercialize its product candidates; the size and growth potential of the markets for the Company's product candidates, and the Company's ability to service those markets; the Company's ability to develop sales and marketing capabilities, whether alone or with potential future collaborators; the rate and degree of market acceptance of the Company's product candidates; and the Company's expectations regarding its ability to obtain and adequately maintain sufficient intellectual property protection for its product candidates. This list is not exhaustive and these and other risks are described in the Company's periodic reports, including the annual report on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, filed with or furnished to the Securities and Exchange Commission and available at www.sec.gov. Any forward-looking statements that the Company makes in this press release speak only as of the date of this press release. The Company assumes no obligation to update forward-looking statements whether as a result of new information, future events or otherwise, after the date of this press release.

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