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): **December 20, 2021**

RELMADA THERAPEUTICS, INC.
(Exact name of registrant as specified in its charter)

Nevada	**001-39082**	**45-5401931**
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

2222 Ponce de Leon Blvd., Floor 3 Coral Gables, FL	**33134**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code **+1-786-629-1376**

N/A
(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	Name of exchange on which registered
Common stock, $0.001 par value per share	**RLMD**	**The NASDAQ Stock Market LLC**

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 8.01 Other Events.

On December 20, 2021, Relmada Therapeutics, Inc., updated its corporate presentation, a copy of which is filed herewith as Exhibit 99.1 and is incorporated herein by reference.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	**Description**
99.1	Corporate Presentation dated December 20, 2021
104	Cover Page Interactive Data File (formatted as Inline XBRL)

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.

Dated: December 20, 2021

RELMADA THERAPEUTICS, INC.

By: */s/ Sergio Traversa*
Name: Sergio Traversa
Title: Chief Executive Officer

Disclosures

Certain statements contained in this presentation or in other documents of Relmada Therapeutics, Inc. (the "Company"), along with certain statements that may be made by management of the Company orally in presenting this material, may contain "forward-looking statements." These statements can be identified by the fact that they do not relate strictly to historic or current facts. They use words such as "estimate," "expect," "intend," "believe," "plan," "anticipate," "projected" and other words and terms of similar meaning in connection with any discussion of future operating or financial performance or condition. These statements are based upon the current beliefs and expectations of the Company's management and are subject to significant risks and uncertainties. Statements regarding future action, future performance and/or future results, those relating to the timing for completion, and results of, scheduled or additional clinical trials and the FDA's or other regulatory review and/or approval and commercial launch and sales results (if any) of the Company's formulations and products and regulatory filings related to the same may differ from those set forth in the forward-looking statements. Peak sales and market size estimates have been determined on the basis of market research and comparable product analysis, but no assurances can be given that such sales levels will be achieved, if at all, or that such market size estimates will prove accurate.

Because actual results are affected by these and other potential risks, contingencies and uncertainties, the Company cautions investors that actual results may differ materially from those expressed or implied in any forward-looking statement. It is not possible to predict or identify all such risks, contingencies and uncertainties. The Company identifies some of these factors in its Securities and Exchange Commission ("SEC") filings on Forms 10-K, 10-Q and 8-K, and investors are advised to consult the Company's filings for a more complete listing of risk factors, contingencies and uncertainties affecting the Company and its business and financial performance.

The Company assumes no obligation to update forward-looking statements as circumstances change. Investors are advised to consult further disclosures that the Company makes or has made on related subjects in the Company's Form 10-K, 10-Q and 8-K reports.

Investment Highlights

CNS Focus with Lead Program in Major Depressive Disorder (MDD)

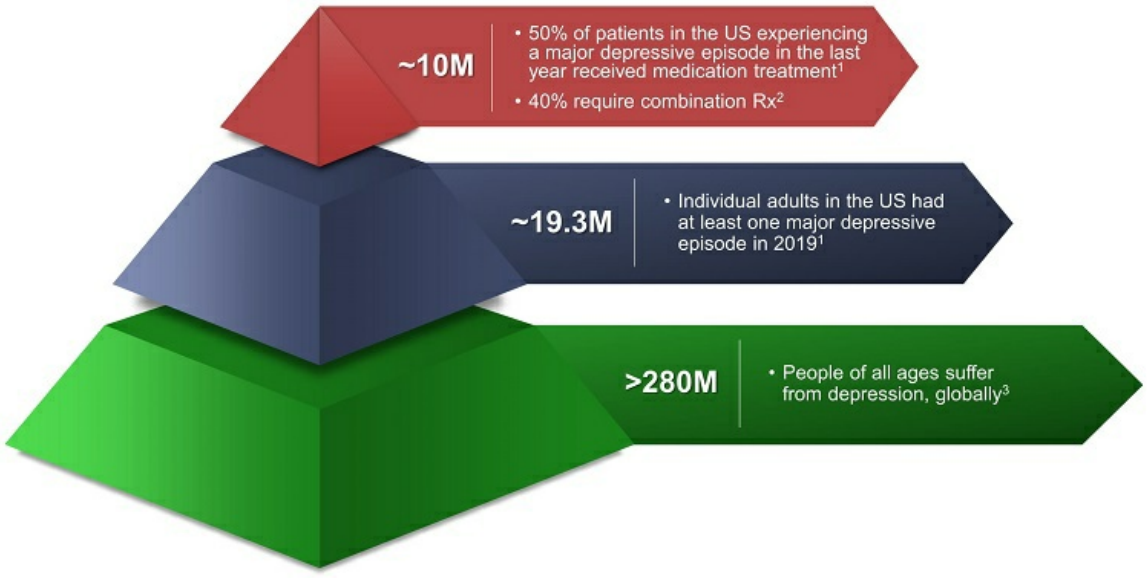
Highly Compelling Opportunity in REL-1017

Multiple Catalysts Expected Over Next 18 Months

CNS= Central Nervous System
**Our fiscal year end is December 31. The periods referred to in this slide are calendar years and quarters.

Major Depressive Disorder & REL-1017

Prevalence of Depression



Rx = prescription
1. Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (HHS) 2019 National Survey on Drug Use and Health; 2. Decision Resources Group Unipolar Depression 2020 report; 3. WHO Depression Fact Sheet

Limitations of Current Treatments for MDD

Limited Efficacy

~65% MDD patients do not respond to first antidepressant treatment[1]

Slow Onset of Action

Standard antidepressants take 2-8 weeks to reach efficacy[1]

Safety & Tolerability Challenges

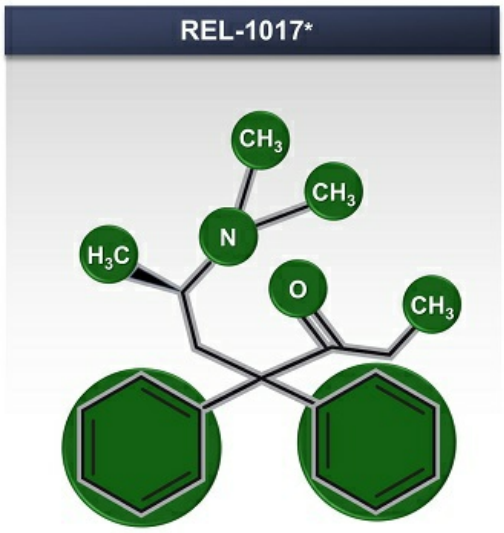
Risks for atypical antipsychotics approved as adjunctive treatments for MDD include tardive dyskinesia, metabolic syndrome, cognitive impairment and stroke[2]

MDD = major depressive disorder
1. Trivedi MH, et al. *Am J Psychiatry*. 2006;163:28-40; 2. Ashton AK, et al. *Curr Ther Res*. 2005;66(2):97-106; 2. US Prescribing Information, brexpiprazole, quetiapine, aripiprazole

Unique Profile of REL-1017

Potential as a rapid, oral, once-daily antidepressant for MDD, if approved

- Novel Mechanism of Action: preferential targeting of NMDAR channels potentially associated with MDD[1]
- Available clinical data demonstrated:
  - Robust, rapid, and sustained statistically significant antidepressant effects on all tested scales[2]
  - Rapid onset: significant efficacy effects by Day 4[2]
  - Favorable safety and tolerability profile consistent across Phases 1 & 2 studies: no opioid and no psychotomimetic adverse events[2,3]
- Orally administered, once-daily tablet



MDD = major depressive disorder; NMDAR = N-methyl-D-aspartate receptor
*Diagram reflects chemical structure of REL-1017 (esmethadone); molecules are CH_3 = Methyl Group, O = Oxygen, N = Nitrogen
1. Bettini et al. Esmethadone (REL-1017) Reduces Glutamate-Induced Currents in NMDA Receptors With the GluN2D Subunit. Biological Psychiatry, 89(9), S198-S199. 2. Fava et al. Rapid and Sustained Antidepressant Effects of REL-1017 (dextromethadone) as an Adjunctive Treatment for Major Depressive Disorder: A Phase 2 Trial. 2021. Poster presented at: American Psychiatric Association Annual Meeting. 3. Bernstein, et al. *2019 Journal of Clinical Psychopharmacology;*

REL-1017 Ph 1 & 2 Efficacy & Safety Data

Phase 1 SAD & MAD Studies for REL-1017, Data Published 2019

Single Ascending Dose (SAD) Study Design
Parallel group, double-blind, placebo controlled

Objectives

Establish PK, PD, and safety of single dose administration

Treatment Administration

- 6 Cohorts: 5, 20, 60, 100, 150, 200 mg
- N = 42

Study Conclusions

- Maximum Tolerated Dose (MTD) = 150 mg
- PK demonstrated linear proportionality of C_{max}, $AUC_{0\text{-}inf}$ vs. dose
- No clinically significant opioid or NMDA AESI signal

Multiple Ascending Dose (MAD) Study Design
Parallel group, double-blind, placebo controlled

Objectives

Establish PK, PD, and safety of once daily, 10-day administration

Treatment Administration

- 3 Cohorts: 25, 50, 75 mg
- N = 24

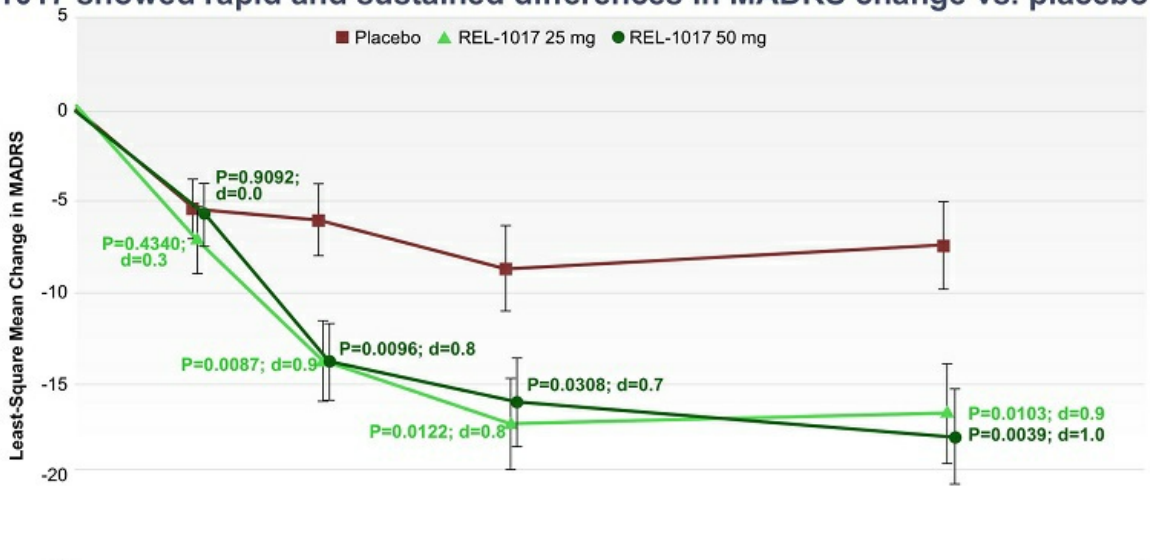
Study Conclusions

- Doses up to max does studied 75 mg per day well tolerated
- Favorable safety and tolerability profile
- No clinically significant opioid or NMDA AESI signal

PK = pharmacokinetics; PD = pharmacodynamics; MTD: =maximum tolerated dose; C_{max} = maximum plasma concentration; $AUC_{0\text{-}inf}$ = area under the curve 0 to infinite time; AUC_t = area under the curve to the end of dosing period; N = number of patients; NMDA = N-methyl-D-aspartate receptor antagonist; AESI = adverse event of special interest
Source: Bernstein, G. et al., J. Clin. Psychopharmacology 2019 May/Jun; 39(3):226-237.

Phase 2 Study REL-1017: Primary Efficacy Endpoint

REL-1017 showed rapid and sustained differences in MADRS change vs. placebo



		Day 2	Day 4	Day 7	Day 14
Δ MADRS vs Placebo	25 mg	7.9	8.7		9.4
	50 mg	7.6	7.2		10.4

MADRS = Montgomery-Asberg Depression Rating Scale

Safety & Tolerability Findings from Phase 2

Safety & Tolerability Comparable to Placebo

- Only Mild and Moderate AEs – no SAEs
- No increased prevalence of specifically relevant organ group AEs in treatment groups vs placebo
- No evidence of opiate effects or withdrawal symptoms in treatment groups vs placebo
- No evidence of treatment-induced dissociative or psychotomimetic symptoms in the treatment groups vs placebo

AE = adverse event; SAE = serious adverse event
Source: Fava et al. Rapid and Sustained Antidepressant Effects of REL-1017 (dextromethadone) as an Adjunctive Treatment for Major Depressive Disorder: A Phase 2 Trial. 2021. Poster presented at: American Psychiatric Association Annual Meeting

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Human Abuse Potential (HAP) Study of REL-1017 vs. Oxycodone

Human Abuse Potential (HAP) Study of REL-1017

HAP Studies, per FDA's *Guidance for Industry*[1]:

- Typically required for CNS-active drugs
- Should be conducted in experienced recreational drug users
- Use standardized questionnaires at specific timepoints
- Positive controls should be FDA-approved controlled substances, that are pharmacologically similar to the test drug
- This assessment is included in the New Drug Application (NDA) and used in determination of drug scheduling

The HAP Program for REL-1017 includes two studies:

- Mu Opioid Agonist HAP
  - Oxycodone as active control
  - **Completed in July 2021**
- NMDA Receptor Antagonist HAP
  - Ketamine as active control
  - **Top-line data expected in 1Q 22**

1 Assessment of Abuse Potential of Drugs Guidance for Industry 2017 https://www.fda.gov/media/116739/download

US DEA Statement for Methadone and Pharmacologic Role of Isomers

July 2019

"Analgesic activity of racemic methadone is entirely due to its *l*- isomer, 8 to 50 times more potent than *d*-isomer. The ***d*-isomer lacks significant respiratory depressant action and addiction liability,** but possesses antitussive activity."

- DEA Statement on methadone 2019[1]

1.US DEA Statement on Methadone 2019 https://www.deadiversion.usdoj.gov/drug_chem_info/methadone/methadone.pdf#search=methadone

Human Abuse Potential (HAP) Study of REL-1017 vs Oxycodone

Top-line Results Summary

- All REL-1017 doses tested showed highly statistically significant differentiation vs. oxycodone 40 mg ($p<0.001$)
- REL-1017 therapeutic doses did not differ significantly from placebo
- Key secondary endpoint results were consistent with primary endpoint
- These results, along with previously published literature, confirm the lack of opioid effects of REL-1017

Source: Relmada data on file.

Primary Endpoint - Drug Liking [Emax]
REL-1017 vs. Oxycodone

Statistic Parameter	Placebo	REL-1017 25 mg	REL-1017 75 mg	REL-1017 150 mg	Oxycodone 40 mg
n	44	44	44	44	44
Mean	**51.7**	**53**	**58.2**	**64.9**	**85**
Median	**50**	**50**	**50**	**58**	**89**
SD	4.28	8.67	14.98	16.74	15.4
SE	0.64	1.31	2.26	2.52	2.32

Statistical Analysis

Treatment 1	Treatment 2	P-value
Oxycodone 40 mg	Placebo	**<0.001**
Oxycodone 40 mg	REL-1017 25 mg	**<0.001**
Oxycodone 40 mg	REL-1017 75 mg	**<0.001**
Oxycodone 40 mg	REL-1017 150 mg	**<0.001**

All REL-1017 doses are highly statistically different from oxycodone for the primary endpoint ("Drug Liking at this Moment"). Comparable results were seen for the two key secondary endpoints ("Overall Drug Liking" and "Take Drug Again").

Source: Relmada data on file.

RELIANCE: The Phase 3 Program for REL-1017

REL-1017 Phase 3 Program for the Treatment of MDD

Reliance I
Reliance II
	Two sister two-arm, placebo-controlled pivotal studies as adjunctive treatment for MDD:
	• In MDD patients with inadequate response to 1-3 ADT (n= ~364 per study)
	• Primary Endpoint: Change in MADRS at Day 28
	• Key Secondary Endpoints:
	  • Change in CGI-S score at Day 28
	  • Change in MADRS score at Day 7

Reliance III	**Two-arm, placebo-controlled pivotal study as a monotherapy treatment for MDD:**
	• In MDD patients with ≤ 1 prior use of ADT for current MDE
	• Primary Endpoint: Change from baseline in MADRS at Day 28
	• Key Secondary Endpoints:
	  • Change in CGI-S score at Day 28
	  • Change in MADRS score at Day 7

Reliance OLS	**Long-term, open-label safety study:** • Patients continuing from RELIANCE I, II & III • Patients new to REL-1017

MDD = major depressive disorder; ADT = antidepressant treatment ; OLS = open label study; MADRS = Montgomery-Asberg Depression Rating Scale; CGIs = Clinical Global Impression scales; MDE = major depressive episode

Pivotal Phase 3 Trial Design for Adjunctive Therapy

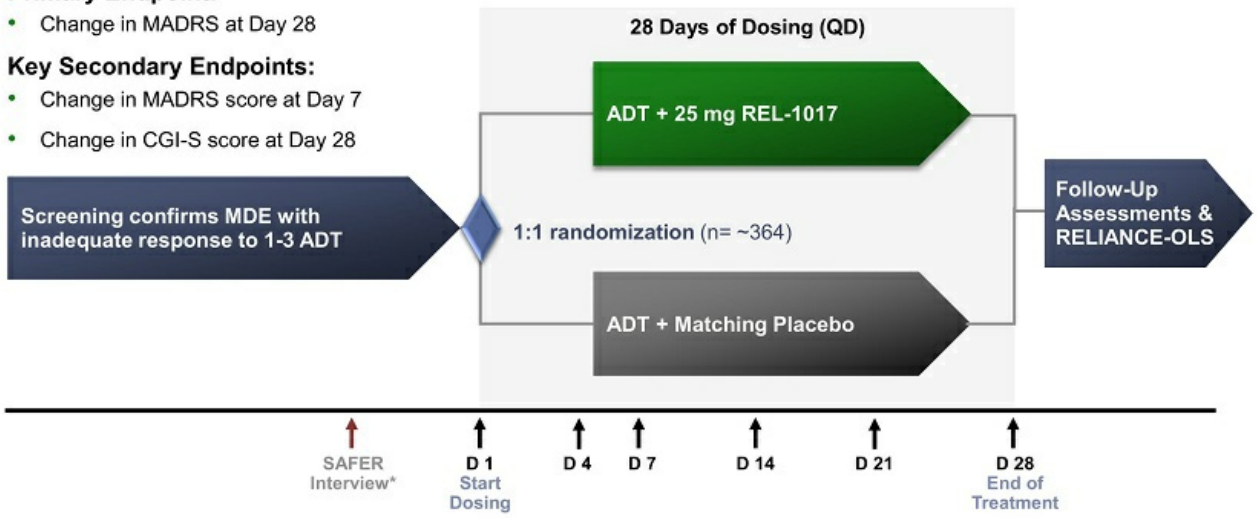
Reliance I
Reliance II

Primary Endpoint:

- Change in MADRS at Day 28

Key Secondary Endpoints:

- Change in MADRS score at Day 7
- Change in CGI-S score at Day 28



MADRS = Montgomery-Asberg Depression Rating Scale; CGIs = Clinical Global Impression scales; MDE = major depressive episode; ADT = antidepressant treatment; QD = once daily; OLS = open label study
*SAFER interview confirms that the illness is a specific state and excludes patients with any symptoms that are nonspecific or not readily assessable. Desseilles M, et al 2013. Massachusetts General Hospital SAFER criteria for clinical trials and research. Harv Rev Psychiatry. Sep-Oct;21(5):269-74.

Pivotal Phase 3 Trial Design for Monotherapy

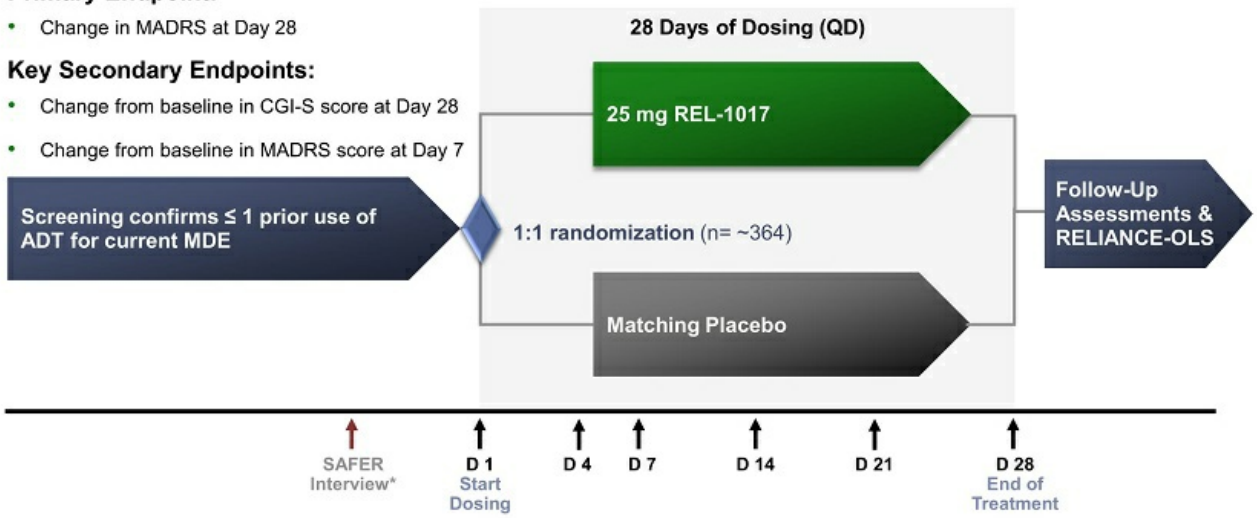
Reliance III

Primary Endpoint:

- Change in MADRS at Day 28

Key Secondary Endpoints:

- Change from baseline in CGI-S score at Day 28
- Change from baseline in MADRS score at Day 7



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Relmada Development Programs & Timeline*

Program	4Q 21	1Q 22	2Q 22	3Q 22	4Q 22
REL-1017	Human Abuse Potential vs. Ketamine				
	RELIANCE-III: MDD Monotherapy				
	RELIANCE I: 1st Pivotal Adjunctive MDD trial				
	RELIANCE II: 2nd Pivotal Adjunctive MDD trial				
	RELIANCE-OLS: Long-Term, Open-Label Study in MDD				

MDD = Major Depressive Disorder; OLS = Open Label Study
*Subject to FDA feedback **Our fiscal year end is December 31. The periods referred to in this slide are calendar years and quarters

Novel Psilocybin and Derivatives

Novel Psilocybin and Derivates

Rights to Co-Develop and Commercialize

- July 2021 announcement of licensing agreement: development and commercial rights to a novel psilocybin and derivatives program
- Complementary focus: potential therapies for neurodegenerative conditions
- Synergy in neuroplasticity: Expands R&D portfolio while building on expertise in neural plasticity, specifically the neuroplastogen mechanism of action
    - Like REL-1017, will build upon Relmada's expertise on neuroplasticity
    - Development and commercial rights in all ex-Asia territories, including the U.S. and Europe

Corporate Information

Financial Overview

* Does not include $162.2 million net proceeds from an equity offering which closed on 12/14/2021
**As converted share count of 25.8 MM share as of 9/30/2021 and does not include 10.1 million shares from an equity offering which closed on 12/14/2021

Investment Highlights

Focus on CNS diseases and Lead Program in Major Depressive Disorder (MDD)

- REL-1017, lead candidate, is in Phase 3 for depression, a leading cause of disability worldwide[1]
- CNS focus, with expertise in developing novel therapeutics that show potential for neuroplasticity
- 50%–66% of patients with depression do not fully recover on an antidepressant medication[2]
- Standard anti-depressants can take 2-8 weeks to work and have significant side-effects

Highly Compelling Lead Product Opportunity in REL-1017

- Novel MOA with successful Phase 2 trial in adjunctive MDD that showed statistically significant, robust, rapid, and sustained anti-depressant effects with favorable safety and tolerability profile[3]
- **Phase 3 program underway** following successful end of Phase 2 Meeting with the FDA
- Fast track designation from FDA
- Strong intellectual property position around REL-1017 with expirations through the mid/late-2030s

Key Catalysts Expected Over Next 3-18 Months

- 1Q22 – Completion of the human abuse potential study with ketamine
- 2Q22 – Completion of the monotherapy MDD trial
- 2H22 – Completion of RELIANCE I and RELIANCE II adjunctive MDD trials
- 2H22 – Completion of RELIANCE – OLS (Long-term, Open-label study in MDD)

CNS= Central Nervous System;; MDD = major depressive disorder; MOA = mechanism of action
**Our fiscal year end is December 31. The periods referred to in this slide are calendar years and quarters.
1. WHO Depression Fact Sheet; 2. Al-Harbi K.S. 2012 *Patient Preference and Adherence*; 3. . Fava et al. Rapid and Sustained Antidepressant Effects of REL-1017 (dextromethadone) as an Adjunctive Treatment for Major Depressive Disorder: A Phase 2 Trial. 2021. Poster presented at: American Psychiatric Association Annual Meeting