RELMADA THERAPEUTICS

Targeting Major Advances in Treatment of CNS Disorders

February 2020

Nasdaq: RLMD

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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

Highly-compelling lead product opportunity w/ REL-1017

Phase 2 Adjunctive MDD* trial completed with positive results

Statistically significant and rapid anti-depressant effects observed with favorable safety and tolerably profile

Fast track designation from FDA

Strong IP position around REL-1017 with protection to the mid-2030s

Management team and scientific advisors have considerable CNS expertise

Johnson & Johnson, Eli Lilly, Pfizer, Shire,

Harvard, Yale, Cornell

REL-1017 has potential in multiple underserved markets[1]

Significant potential in multiple additional indications including Major Depressive Disorders (MDD)

~ 17.3M Americans suffered from MDD in 2017[1]

~ 50%–66% of patients with depression do not recover fully on an antidepressant medication[2]

Multiple key catalysts expected over next 12-18 months**

Presentation of REL-1017 Phase 2 study full data H1 2020

End of Phase 2 meeting with the FDA H1 2020

Start of pivotal program in Adjunctive MDD in H2 2020

Start of Phase 2 study in MDD H2 2020

1. https://www.nimh.nih.gov/health/statistics/major-depression.shtml
2. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3363299/

* MDD = Major Depressive Disorder

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

Dextromethadone (REL-1017)

as a Potential Treatment for Depression

REL-1017 Program Overview

Relmada is focused on advancing dextromethadone (REL-1017) as a rapid-acting oral treatment for depression and other CNS disorders.

Compelling Lead Product Candidate: REL-1017

- REL-1017 is a non-competitive N-methyl-D-aspartate Receptor (NMDAR) antagonist
- REL-1017 has the potential to be the first oral NMDAR antagonist for the adjunctive treatment of depression, including treatment resistant depression
- Completed Phase 1 and Phase 2 trial for Adjunctive treatment of Major Depressive Disorder
- In a Phase 2 trial, both doses of REL-1017 25 mg and 50 mg demonstrated rapid onset and sustained antidepressant effects with statistically significant differences compared to placebo on all efficacy measures
    - Study demonstrated rapid onset and long-lasting antidepressant effects
    - Only mild and moderate AEs - no serious AEs
    - No evidence of treatment induced dissociative and psychotomimetic AEs
    - No evidence of opiate withdrawal symptoms in treatment groups vs placebo

Dextromethadone is an NMDAR antagonist with Significant Potential Advantages in the Treatment of Depression

Novel mechanism of action

d-Methadone and other NMDA antagonists represent a new approach to treating depression with MOA markedly different from currently approved drugs (SSRIs, SNRIs, TCAs, MAOIs, etc.)

Rapid onset

Faster onset of antidepressant activity – statistically significant difference in MADRS score vs placebo after 4 days of treatment

Long lasting effect – statistically significant difference in MADRS score vs placebo seven days after termination of a 7-day treatment

Most of the currently approved products take up to a month to show antidepressant activity

d-Methadone has the potential to address a high unmet need in MDD [1]

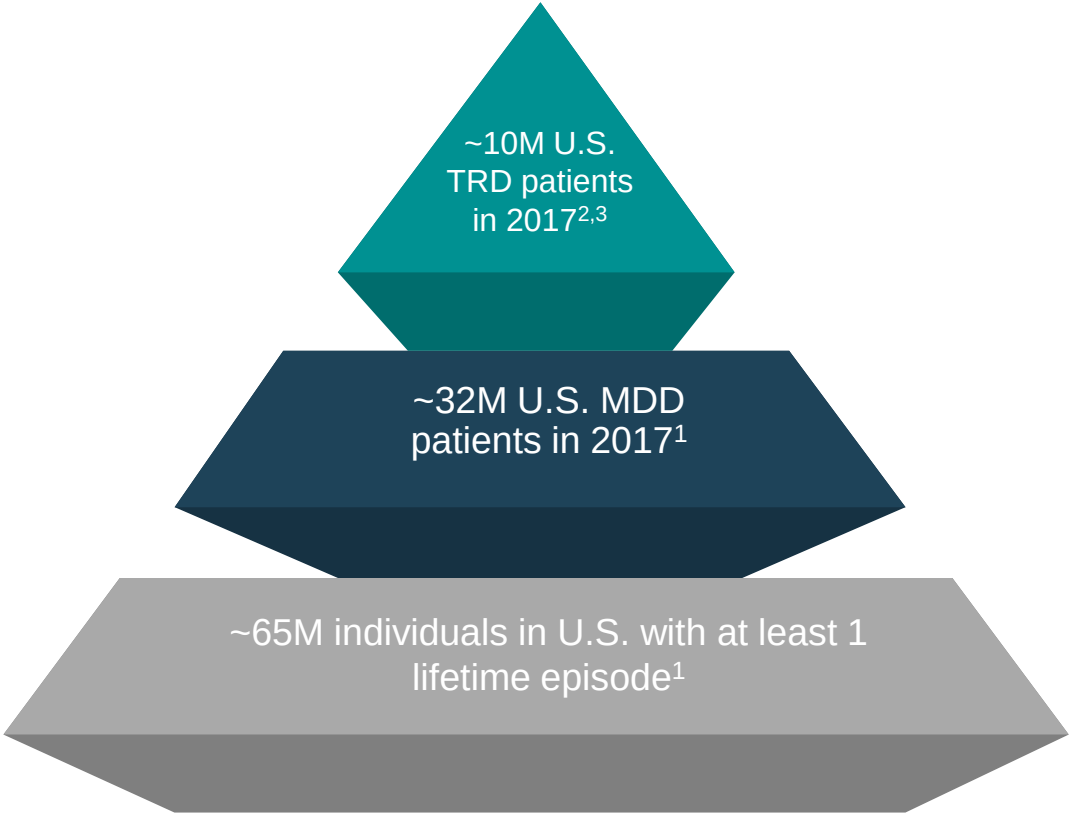
~65% MDD patients do not respond to first antidepressant treatment

~30% MDD patients do not respond to up to 4 different antidepressant treatments

Potentially equal or superior antidepressant effects with better safety profile than ketamine

1 Source: Am J Psychiatry. 2006 Nov;163(11):1905-17, https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHDetailedTabs2017/NSDUHDetailedTabs2017.htm#tab8-10A

An Effective Adjunctive Treatment for Major Depressive Disorder Remains a High Unmet Need



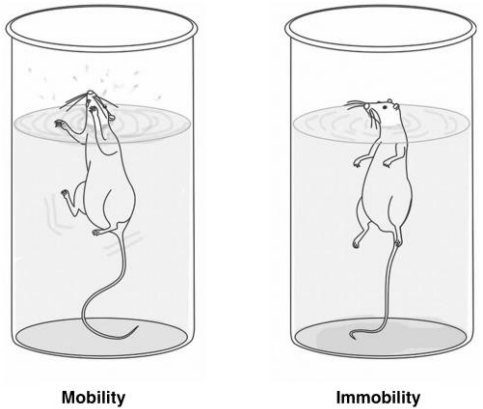
1. Hasin DS, et al. Epidemiology of Adult *DSM-5* Major Depressive Disorder and Its Specifiers in the United States. *JAMA Psychiatry.* Published online February 14, 2018.
2. Am J Psychiatry. 2006 Nov;163(11):1905-17. Acute and longer-term outcomes in depressed outpatients requiring one or several treatment steps: a STAR*D report. Rush AJ, et al.
3. Estimated based on %30 TRD prevalence

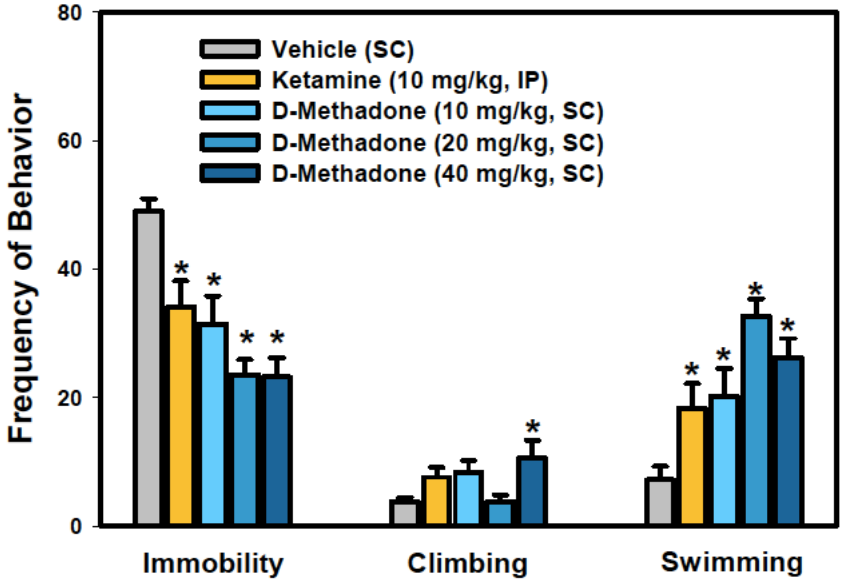
Expanding Focus on NMDA's Role in Treatment of Depression

Strong Anti-Depressant Effects Observed in Three Animal Models of Depression

Improved performance on the rat forced swim test 24 hours after d-methadone treatment

Forced Swim Test





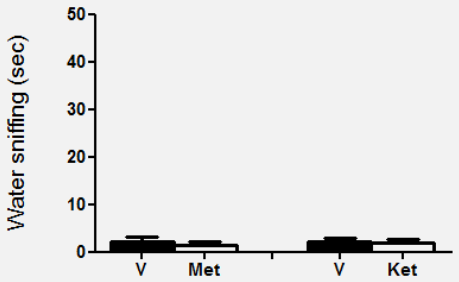
* = p<0.05 compared to placebo group

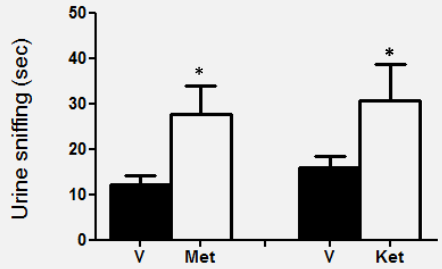
PsychoGenics – Dr. Taleen Hanania
Data published: Hanania, T. et al., Exp Clin Psychopharmacol. 2019 Aug 1.

Strong Anti-Depressant Effects Observed in Three Depression Animal Models

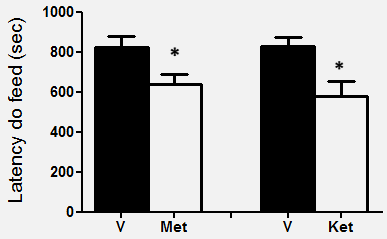
Improved performance on the rat FUST and the NSFT 24 hours after d-methadone treatment

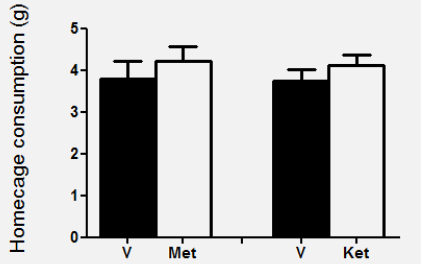
Female Urine Smell Test





Novelty Suppressed Feeding Test





* = p<0.05 compared to placebo group - Dr. Ron Duman's laboratory - Yale Medical School
Data published: Fogaça, MV et al., Neuropsychopharmacology. 2019 Dec;44(13):2230-2238.

Phase 1 SAD and MAD Study Showed Favorable Safety and Tolerability Profile

Single Ascending Dose (SAD) Study Design

Parallel group, double-blind, placebo controlled

Objectives

- Establish PK, PD and safety of single dose administration

Treatment Administration

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

Study Conclusions

- MTD = 150 mg (single dose)
- PK demonstrated linear proportionality of C_{max} and $AUC_{0\text{-}inf}$ vs. dose
- No clinically significant opioid effects of dextromethadone up to 150 mg

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

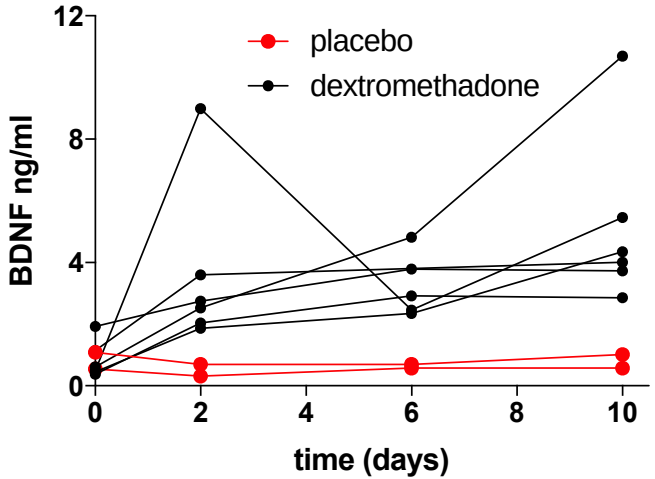
- Cohorts 25, 50, 75 mg
- N = 24

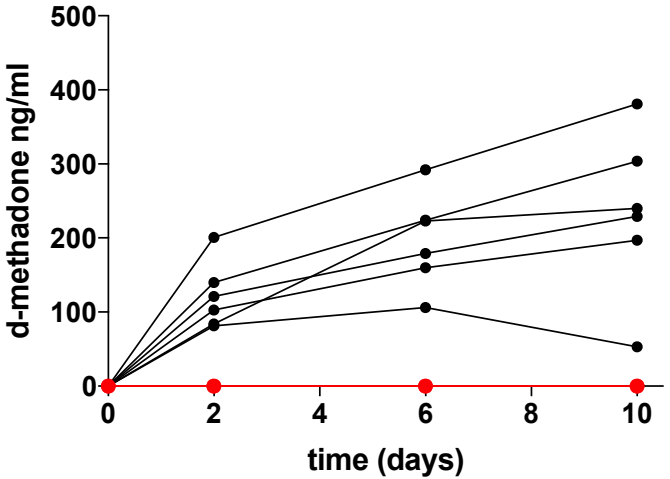
Study Conclusions

- Doses up to 75mg per day well tolerated
- Dose proportionality was demonstrated for the single-dose parameters Cmax and AUCτ on Day 1 and for the steady state parameters Cmax, AUCτ, and Css on Day 10

PK: pharmacokinetics; PD: pharmacodynamics; MTD: maximum tolerated dose; Cmax: maximum plasma concentration; AUC: area under the curve 0 to infinite time; AUCτ : area under the curve to the end of dosing period
Data published: Bernstein, G. et al., J. Clin. Psychopharmacology 2019 May/Jun;39(3):226-237.

D-methadone Significantly Increased BDNF Plasma Levels Compared to Placebo in Phase 1 MAD Study in Healthy Volunteers



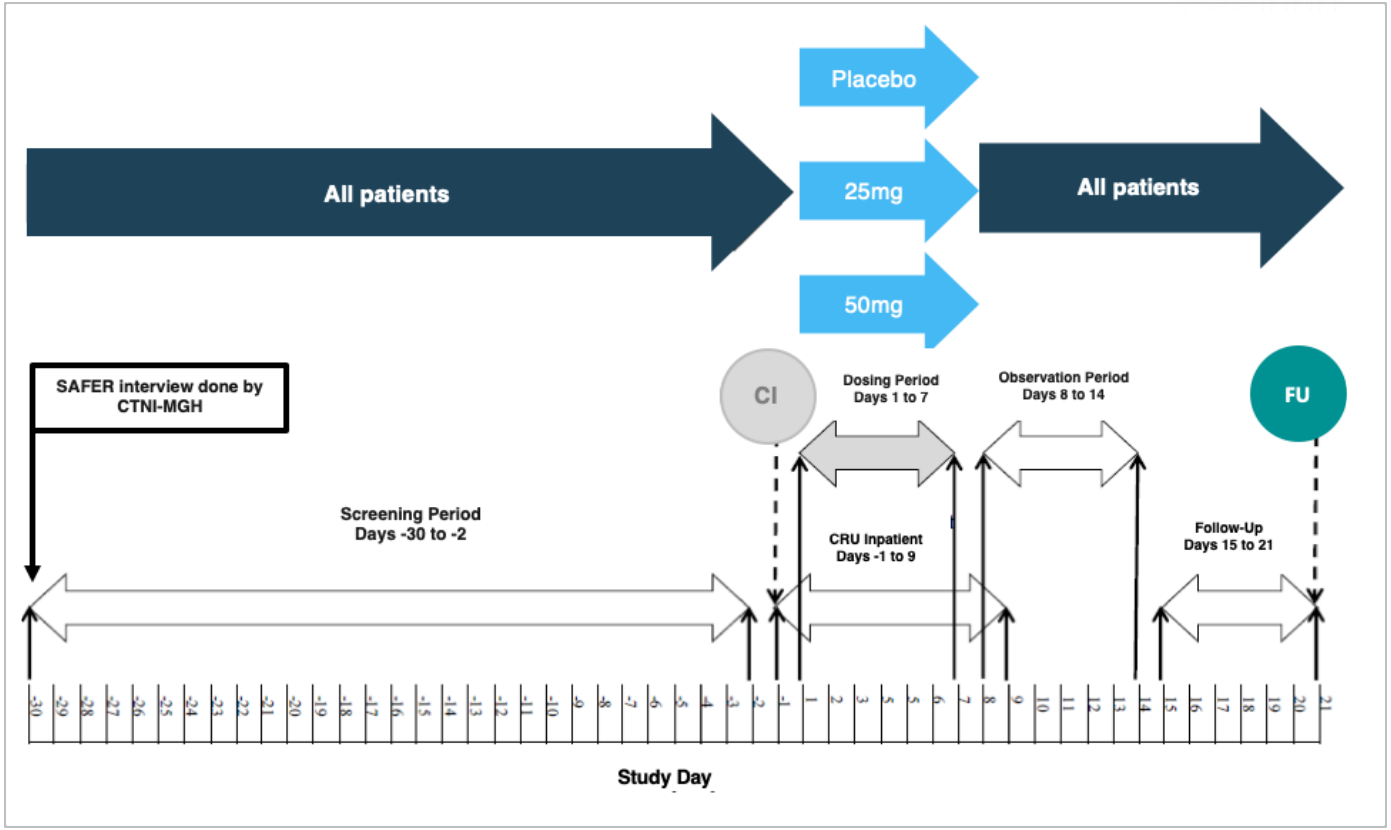


Treatment Arm	Average Plasma BDNF ng/ml (±SD)	
	Pre-treatment	Post-treatment
d-Methadone	0.84 (0.60)	5.84 (2.83)
Placebo	0.81 (0.38)	0.79 (0.30)

BDNF: Brain Derived Neutrophic Factor; SD: standard deviation

REL-1017 – Phase 2a Study Evaluated Safety and Tolerability, PK and Efficacy as Adjunctive Treatment of MDD

- RDPC study of 7-day dosing at 25 mg and 50 mg QD as adjunctive therapy in MDD subjects who did not respond to adequate antidepressant treatments
- 11 U.S. sites
- Dose selection based on effect measured in pre-clinical studies
- 62 subjects randomized to three arms:
  - placebo, 25 mg/day, 50 mg/day
- **Primary Endpoints**
  - safety and tolerability
- **Secondary Endpoints**
  - efficacy (MADRS, SDQ, CGIs)
  - pharmacokinetic (PK) profile



MDD = Major Depressive Disorder; RDPC = randomized double-blind placebo controlled; MADRS = Montgomery-Asberg Depression Rating Scale; SDQ = Symptoms of Depression Questionnaire; CGIs = Clinical Global Impression scales

Study REL-1017-202 Was Designed to Provide Data on Safety, PK and Efficacy of REL-1017 as an Adjunctive Treatment of MDD

Primary Objectives	Primary Endpoints
Safety and tolerability of 25 mg and 50 mg of REL-1017 vs placebo as adjunctive treatment	PE, Laboratory studies, ECG, AEs CADSS (dissociative symptoms) 4-item PSRS (psychotomimetic symptoms) COWS (opiate withdrawal symptoms) C-SSRS (suicidality)
Secondary Objectives	**Secondary Endpoints**
To characterize pharmacokinetic (PK) profile of REL-1017 25 mg and 50 mg x 7 days To explore the efficacy of 25 mg and 50 mg of REL-1017 as adjunctive treatment in patients with MDD	PK parameters for both 25 and 50 mg qday Change from BSL at Day 2, 4, 7 and 14 on: • MADRS • SDQ • CGI-S Difference in CGI-I score placebo vs treatment groups Day 2 to 14

MDD: Major Depressive Disorder; PE: Physical exam; ECG: Electrocardiogram; AEs: Adverse Events; CADSS: Clinician Administered Dissociative States Scale;
PSRS: Positive Symptom Rating Scale; COWS: Clinical Opiate Withdrawal Scale; C-SSRS: Columbia-Suicide Severity Rating Scale;
MADRS: Montgomery Asberg Depression Rating Scale; SDQ: Symptoms of Depression Questionnaire; CGI-S and CGI-I: Clinical Global Impression- Severity and Improvement

Subjects' Disposition, Demographic Characteristics and Depression Severity Were Homogeneously Distributed Across Arms

	Placebo	REL-1017 25 mg	REL-1017 50 mg	All Subjects
Randomized Subjects	22	19	21	62
Completed all visits (Day 21)	20	18	19	57
Received all doses	21	19	21	61
Age: mean years (SD)	49.7 (11.1)	49.4 (12.4)	48.6 (10.9)	49.2 (11.3)
Females	11 (50%)	8 (42.1%)	9 (42.9%)	28 (45.2%)
Subjects ITT	22	19	21	62
Subjects PPP	21	19	21	61
Screening HAMD - Mean (SD)	25.6 (3.5)	25.1 (3.5)	25.0 (3.8)	25.3 (3.6)
Baseline MADRS - Mean (SD)	33.8 (4.0)	32.9 (6.0)	35.2 (3.9)	34.0 (4.7)

ITT: Intent-To-Treat; PPP: Per-Protocol-Population; HAMD: Hamilton Depression Rating Scale; MADRS: Montgomery-Asberg Depression Rating Scale

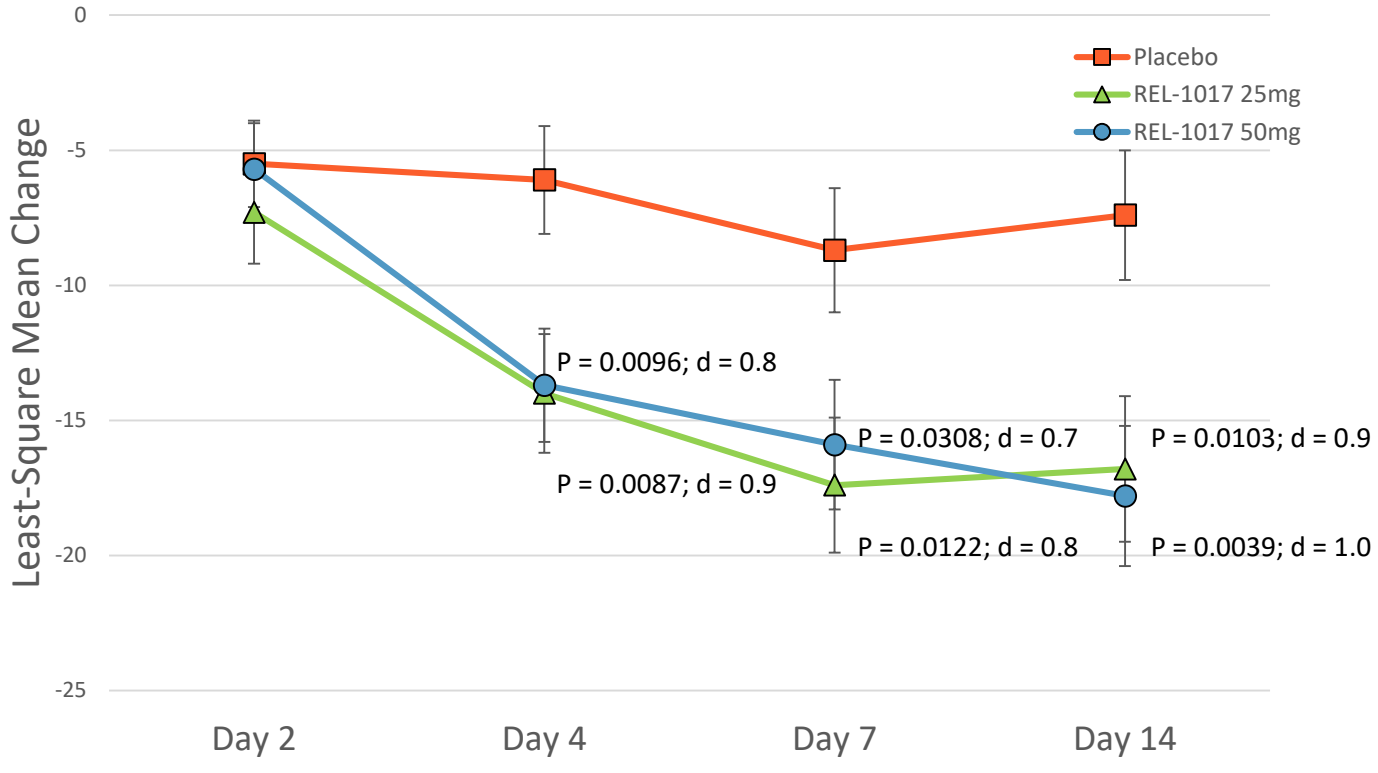
Study REL-1017 Phase 2a Key Safety Findings

REL-1017-202 results confirm the favorable tolerability and safety profile observed in the Phase 1 SAD and MAD studies
Only Mild and Moderate AEs - no SAEs
No increased prevalence of specifically relevant organ group AEs in treatment groups vs placebo
No evidence of treatment induced dissociative symptoms in the treatment groups vs placebo
No evidence of treatment induced psychotomimetic symptoms in treatment groups vs placebo
No evidence of opiate withdrawal symptoms in treatment groups vs placebo

Study REL-1017 Phase 2 Key Efficacy Findings

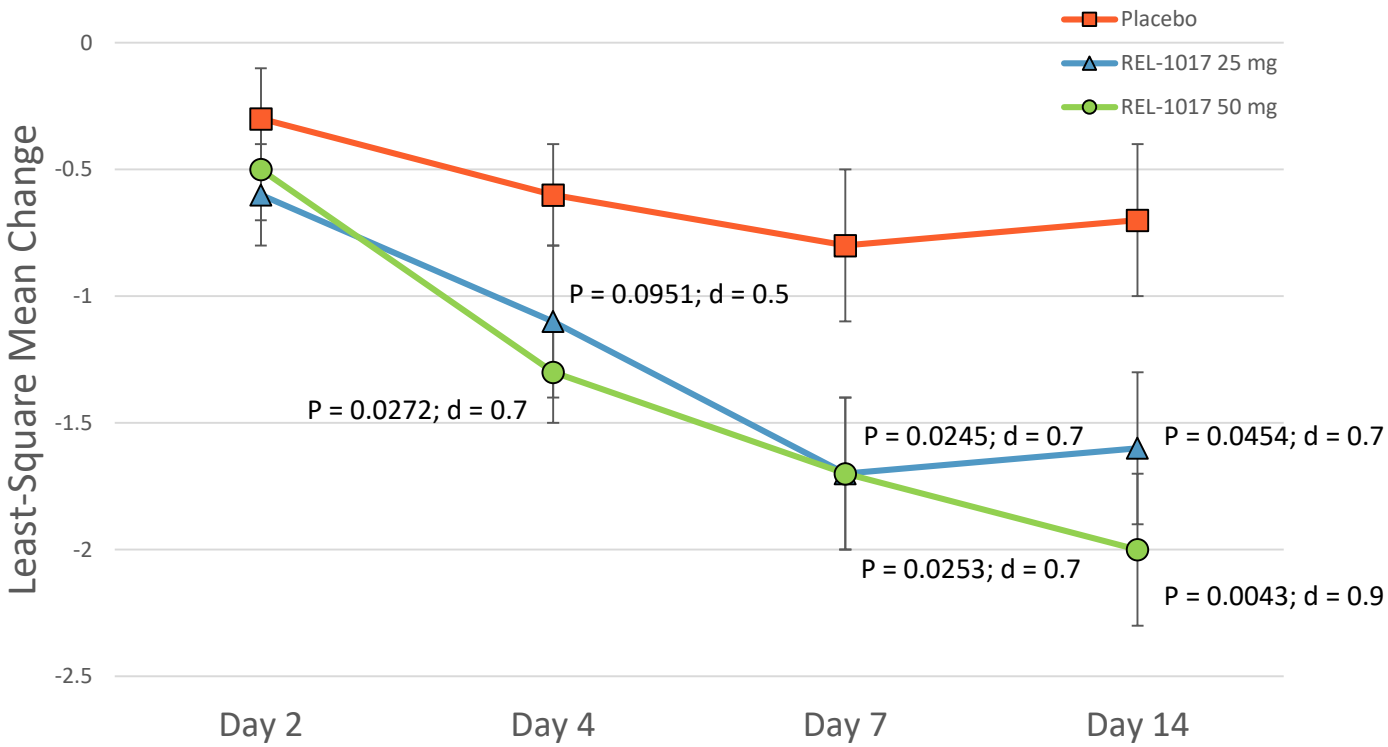
REL-1017 25 mg and 50 mg show rapid onset and sustained antidepressant effects with statistically significant differences compared to placebo on all efficacy measures
Solid effects observed on MADRS with P values < 0.03 and large effect sizes (0.7- 1.0) from Day 4 to Day 14
CGI-S and CGI-I solid findings consistent with MADRS results with P-values and effect sizes of similar magnitude
SDQ scores with moderate effect size differences (d = 0.4 and 0.5) from Day 4 to Day 7 and with both statistically significant differences and large effect size for both 25 mg (P = 0.0066; d = 0.9) and 50 mg (P= 0.0014; d = 1.1) arms at Day 14
Study demonstrates rapid onset and long-lasting antidepressant effects
Findings support continuing clinical development and larger pivotal study

MADRS Scores in the Treatment Groups Achieved Statistically Significant Difference vs Placebo from Day 4 through Day 14



MADRS: Montgomery-Asberg Depression Rating Scale; ITT: Intent-To-Treat; Error Bars: Standard Errors; P and d values as Treatment vs Placebo

CGI-S Scores Achieved Statistically Significant Difference vs Placebo from Day 4 for REL-1017 50 mg and for both Doses on Day 7 and Day 14



CGI-S: Clinical Global Impression of Severity; ITT: Intent-To-Treat; Error Bars = Standard Errors; P and d values as Treatment vs Placebo

Anticipated Development Timeline REL-1017*

Indication	2019				2020			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Adjunctive Treatment of Major Depressive Disorder (MDD)				Top Line P2 Data		P2 full data End of P2 FDA meeting	1st Pivotal Adjunctive MDD trial start	
Major Depressive Disorder (MDD)							MDD Phase 2 start	

* May be delayed based on FDA feedback and other factors .

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Potential Competitive Advantages of Dextromethadone

Compound (Company)	Mechanism of Action	Delivery	Current Clinical Stage	Dosing Regimen
Dextromethadone (Relmada)	**Non-competitive NMDA channel blocker**	Oral	Completed Phase 2	Once Daily
Esketamine (Janssen/J&J)		Nasal (administered in clinic)	Approved and launched	Biweekly
AXS-05 DM 45 mg + BUP 105 mg (Axsome)	**Multimodal (NMDA+others)**	Oral	Phase 3[1]	Twice daily
Sage-217	**GABA receptor allosteric modulator**	Oral	Phase 3[2]	Once Daily

[1] First P3 study met primary endpoint

[2] First P3 study did not meet primary endpoint

Corporate Information

Financial Overview[1]

Cash & Cash Equivalents (as of 9/30/19)	**$7.8 million**
Common Shares Outstanding (as of 1/30/20)	**~14.7 million**

[1] The Company completed on December 6, 2019 an equity financing receiving approximately $108M in net proceeds issuing approximately 3.8M common stock

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Management Team and Key Scientific Advisors

Management

Sergio Traversa	Chief Executive Officer	Johnson & Johnson, Lilly
Ottavio Vitolo	Head of R&D and Chief Medical Officer	Pfizer, Shire, MGH Massachusetts General Hospital, Harvard University
Maged Shenouda	Chief Financial Officer	J.P.Morgan, UBS, pwc, Abbott
Chuck Ence	Chief Accounting and Compliance Officer	PepsiCo, NewAge

Advisors

Maurizio Fava	Scientific Advisor	Harvard University, MGH Massachusetts General Hospital
Charles Inturrisi	Scientific Advisor	Cornell University
Paolo Manfredi	Scientific Advisor	Memorial Sloan Kettering Cancer Center, MD Anderson Cancer Network, MGH Massachusetts General Hospital, Mount Sinai

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