MINERVA NEUROSCIENCES, INC.
2021 ANNUAL MEETING OF STOCKHOLDERS
June 11, 2021
8:00 a.m.

Agenda:

- Call to Order
- Announcements and Introductions
- Report on Notice of Meeting and Existence of a Quorum
- Voting Items:
  1. *Election of Directors*
  2. *Approval of a one-time stock option exchange program, or the Exchange Program*
  3. *Advisory vote to approve compensation of the Company's executives ("say on pay")*
  4. *Ratification of the appointment of Deloitte & Touche LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2021*
- Results of Voting
- Adjournment
- Company Presentation

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Annual Stockholder Meeting

June 11, 2021

Progress in 2021 towards treatments for unnmet needs in CNS healthcare

Program	Primary Indications	Mechanism of Action	Preclinical	Phase 1	Phase 2	Phase 3	Pre-NDA
Roluperidone (MIN-101)	Negative symptoms in schizophrenia	• 5-HT_{2A} antagonist • $Sigma_2$ antagonist • α_{1A}-adrenergic antagonist	**52wk Pivotal Phase 3 (MIN-101C07) TLR announced 11 May 2021**				
Seltorexant (MIN-202)	MDD in patients with insomnia (MDDIS)	• Selective orexin-2 antagonist (SORA)	**Phase 3 initiated in Q3 2020** **Rights to royalty stream sold to Royalty Pharma in January 2021 for $155m ($60m up-front)**				
MIN-301	Parkinson's disease	• Neuregulin-1β1 activating ErbB4					

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Roluperidone (MIN-101): Results from the open-label extension of the phase 3 study for the treatment of negative symptoms of schizophrenia

Key objectives of the open-label extension (OLE)

1. **Long term safety**

2. **Long term efficacy:**
   a. **Negative Symptoms**
      - Marder Negative Symptom Factor Score (NSFS) **(*Primary Endpoint*)**

   b. **Overall Psychopathology**
      - Other dimensions of the disease, including CGI-S and other PANSS scale items

   c. **Relapse rate of Schizophrenia**

   d. **Functioning**
      - Personal and Social Performance Total score (PSP) **(*Key Secondary Endpoint*)**

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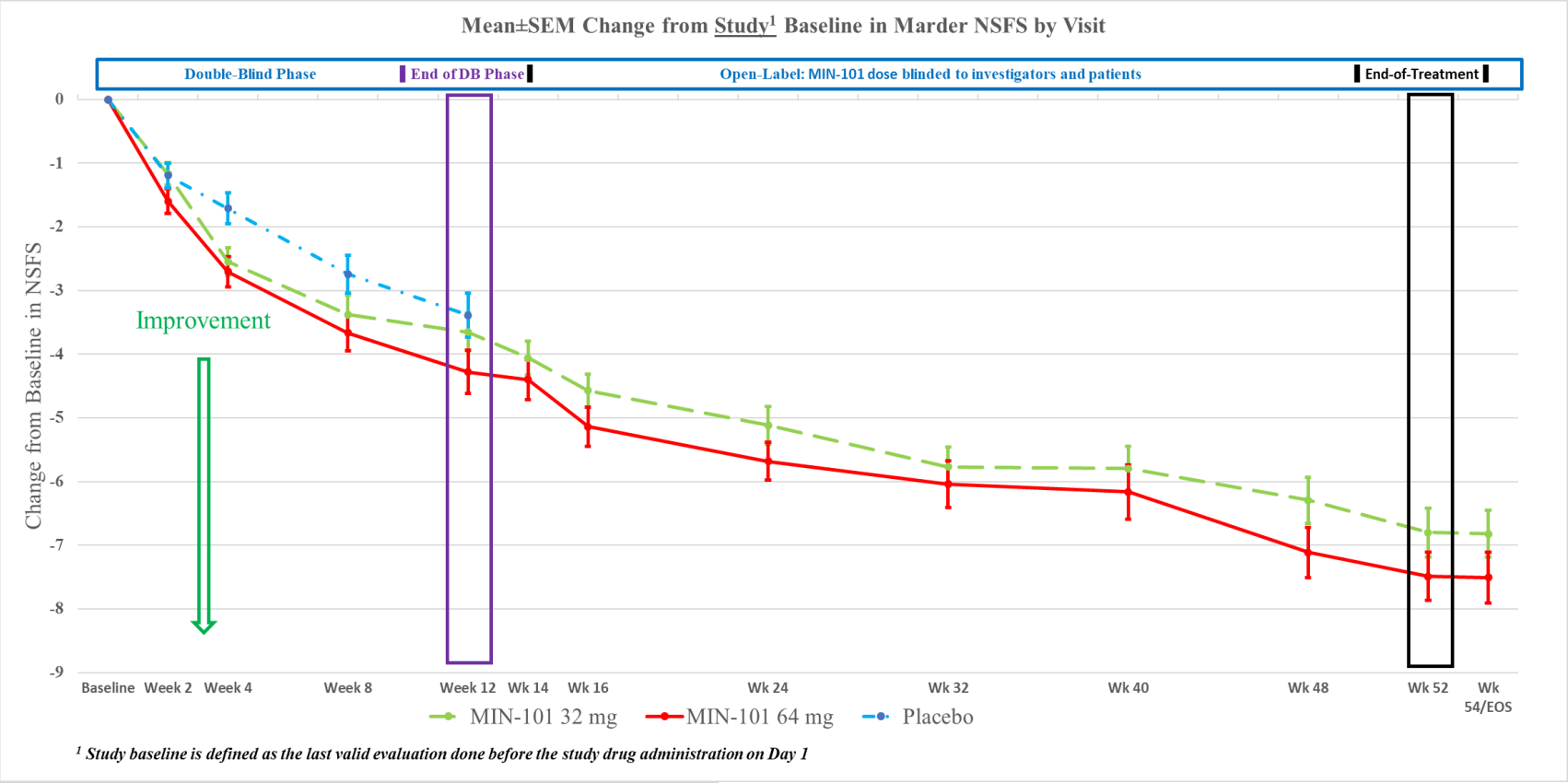
NSFS: Double-Blind & Open-Label Extension – Study Baseline

Figure depicting the observed data for the 3 treatment arms during double-blind phase and the 2 active treatment arms during the open-label extension phase



[1] *Study baseline is defined as the last valid evaluation done before the study drug administration on Day 1*

Change from Baseline				
	Double-Blind (12 Wks)		End-of-Treatment (WK 52)	
Treatment Arm	Mean	SD	Mean	SD
MIN-101 32 mg	-3.7	3.18	-6.3	4.00
MIN-101 64 mg	-4.3	3.80	-7.8	3.56
Placebo to MIN-101 32 mg	-3.4	3.91	-4.5	3.50
Placebo to Min-101 64 mg			-4.9	4.66

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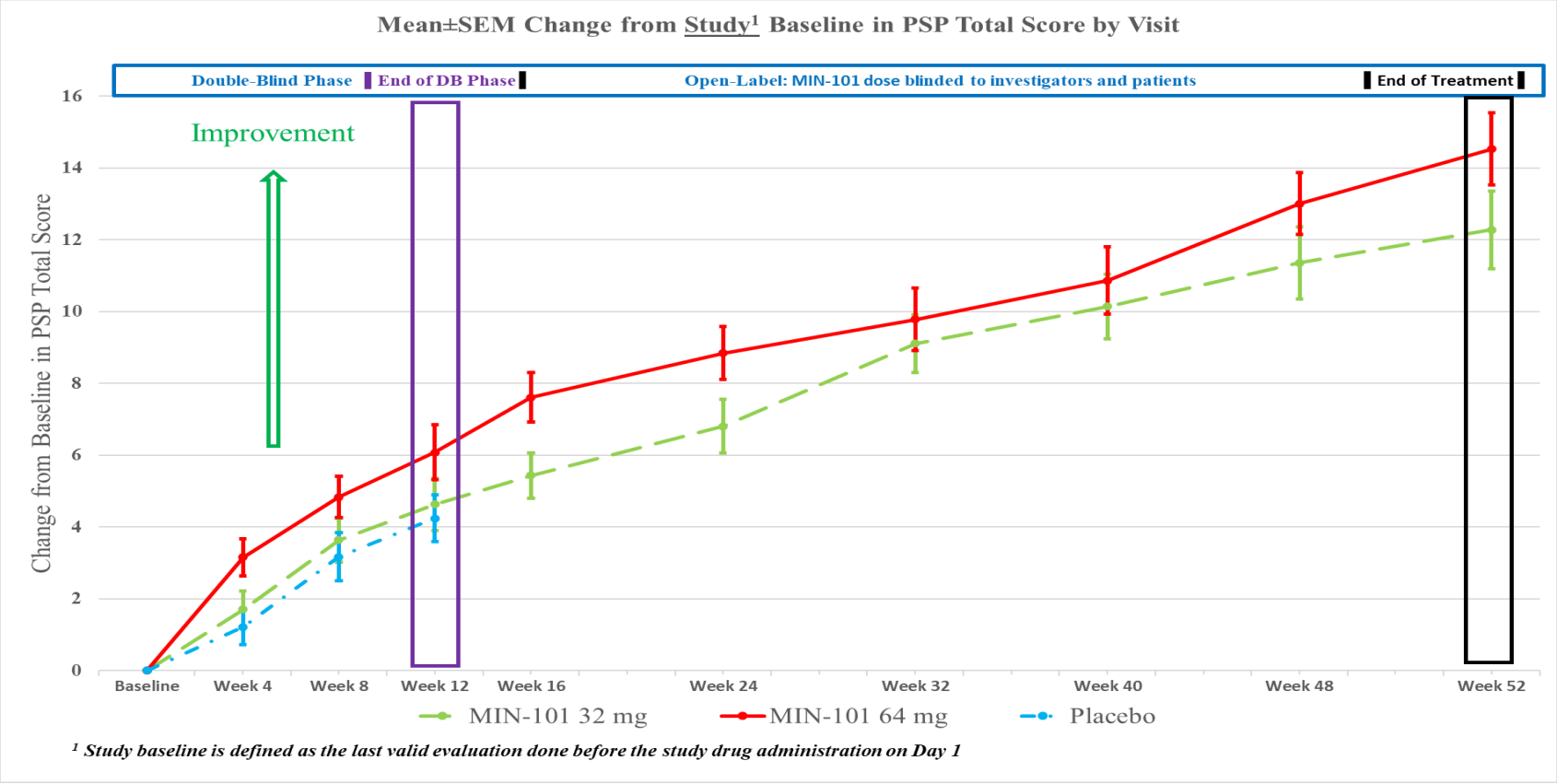
PSP Total Score: Double-Blind & Open-Label Extension – Study Baseline

Figure depicting the observed data for the 3 treatment arms during double-blind phase and the 2 active treatments arms during the open-label extension phase



Change from Baseline				
	Double-Blind (12 Wks)		End-of-Treatment (WK 52)	
Treatment Arm	Mean	SD	Mean	SD
MIN-101 32 mg	4.6	7.88	10.6	10.87
MIN-101 64 mg	6.1	8.37	14.1	9.19
Placebo to MIN-101 32 mg	4.2	7.34	11.7	9.48
Placebo to Min-101 64 mg			11.8	9.61

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Relapse* rates in the double-blind phase and open-label extension

Study Phase		Placebo (N=172)		MIN-101 32 mg (N=170)	MIN-101 64 mg (N=171)
Double-Blind	# of Patients	8 (4.7%)		18 (10.6%)	9 (5.3%)
	Mean±SEM Days to Relapse	79.8±0.91		68.5±1.35	80.2±1.13
Open-Label	Treatment	MIN-101 32 mg (N=59)	MIN-101 64 mg (N=63)	MIN-101 32 mg (N=107)	MIN-101 64 mg (N=104)
	# of Patients	6 (10.2%)	0 (0%)	9 (8.4%)	10 (9.6%)
	Mean±SEM Days to Relapse	253.6±6.98	-	232.4±4.86	186.7±3.67

Over the total study period (one year duration) the overall relapse rate was 11.7%

** Relapse is defined as worsening of schizophrenia symptoms that lead to permanent discontinuation from the study*

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Summary of results from the open-label extension

The Open-Label Extension results show:

- Continuous and sustained improvement of negative symptoms
- Continuous improvement of daily functioning
- Psychotic/positive symptoms stable and few relapses over one year
- Safe and well tolerated

1. **Data Interpretation**
   a. Pharmacology enables:
      i. Improvement of primary negative symptoms
      ii. Maintains stability of positive symptoms & improves PANSS total score & general psychopathology
   b. Improvement of negative symptoms leads to a sustained improvement of the overall psychopathology of schizophrenia

2. **Totality of Evidence**
   a. The open-label results supplement our clinical database supporting the beneficial effect of roluperidone for the treatment of negative symptoms of schizophrenia - a significant unmet medical need for which there is currently no approved treatment in the USA

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Ongoing and future development plans towards NDA submission (Q1 2022)

1. **Regular interactions with the FDA to address topics discussed during the type C meeting**
2. **Bioequivalence study** in healthy subjects initiated in May 2021
   - Designed to demonstrate bioequivalence between the Phase 2b formulation and the Phase 3 formulation
3. Other ongoing activities including drug abuse potential and 2-year rat carcinogenicity study
4. NDA preparation ongoing
5. Pre-NDA meeting preparation

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Seltorexant

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Seltorexant: Minerva sold 6% royalty rights on w/w sales to Royalty Pharma resulting in non-dilutive financing potentially up to $155m ($60 m received in Q1 2021)

- **$60m received in January 2021**

#	Payment Triggering Event	Additional Payment Amount
1	The earlier to occur of: (A) public disclosure by Janssen of Studies 3001 and 3002 both meeting their primary endpoint of change from baseline to Day 43 in MADRS Total Score and the secondary endpoint of change from baseline to Day 43 in MADRS-WOSI (Without Sleep Item) Total Score and (B) Marketing Approval from the FDA for Seltorexant for the adjunctive treatment of major depressive disorder in patients with insomnia symptoms, or an equivalent or broader indication (the "Indication").	$10M
2	Marketing Approval from the FDA of Seltorexant for the Indication.	$30M
3	Marketing Approval from the EMA of Seltorexant for the Indication.	$15M
4	The earlier to occur of the first Marketing Approval in China and Japan of Seltorexant for the Indication.	$10M
5	The first occurrence of the Buyer receiving $60M in Royalty payments with respect to worldwide Net Sales of Seltorexant during any calendar year.	$10M
6	The first occurrence of the Buyer receiving $120M in Royalty payments with respect to worldwide Net Sales of Seltorexant during any calendar year.	$20M
		$95M

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Summary

Roluperidone **Negative Symptoms in Schizophrenia** **Regulatory Process**	▪ Double-Blind TLR data presented May 29th 2020 ▪ 52 week OLE completed in May 2021 ▪ Pre-NDA Meeting planned in Q4 2021 ▪ NDA filing targeted Q1 2022
Seltorexant royalty (6%) **MDD & Insomnia Symptoms**	▪ Phase 2b program completed in 2019 ▪ FDA End of Phase 2 meeting complete - Phase 3 initiated by Janssen ▪ Minerva opted out of phase 3 co-development ▪ Royalty rights sold to Royalty Pharma for $155m ($60m up-front)
Cash	▪ $80.2m cash & cash equivalents at March 31st, 2021

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