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): June 2, 2025

REVIVA PHARMACEUTICALS HOLDINGS, INC.
(Exact name of registrant as specified in its charter)

Delaware	**001-38634**	**85-4306526**
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

10080 N. Wolfe Rd., Suite SW3-200 Cupertino, CA	**95014**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: **(408) 501-8881**

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(s)	Name of each exchange on which registered
Common Stock, par value $0.0001 per share	RVPH	Nasdaq Capital Market
Warrants to purchase one share of Common Stock	RVPHW	Nasdaq Capital Market

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 7.01. Regulation FD Disclosure.

On June 2, 2025, Reviva Pharmaceuticals Holdings, Inc. (the "Company") issued a press release announcing a positive full dataset and successful completion of the Company's Phase 3 RECOVER open-label extension (OLE) 1-year study evaluating the long-term safety, tolerability and efficacy of brilaroxazine in patients with schizophrenia. A copy of the press release is attached hereto as Exhibit 99.1.

Also on June 2, 2025 the Company furnished an investor slide deck presenting the dataset from the OLE trial (the "Investor Presentation Materials"). A copy of the Investor Presentation Materials are attached hereto as Exhibit 99.2.

On Monday, June 2, 2025, at 8:00 a.m. EDT (5:00 a.m. PDT), the Company will host a virtual webcast regarding the OLE trial data. Information about how to register for and access the virtual webcast are set forth in the press release attached as Exhibit 99.1 hereto. The Investor Presentation Materials attached as Exhibit 99.2 hereto will be presented during the virtual webcast. The Investor Presentation Materials may be presented at meetings with investors, stockholders, analysts and others and at investor conferences, in whole or in part and possibly with modifications, from time to time on or after June 2, 2025. A copy of the Investor Presentation Materials will be available on the Company's website, www.revivapharma.com, and as noted above is attached hereto as Exhibit 99.2.

The information in this Current Report on Form 8-K under Item 7.01, including the information contained in Exhibits 99.1 and 99.2, is being furnished to the Securities and Exchange Commission, and shall not be deemed to be "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, and shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by a specific reference in such filing.

Item 8.01. Other Events.

On June 2, 2025, the Company announced a positive full dataset and successful completion of the Company's Phase 3 RECOVER open-label extension (OLE) 1-year study evaluating the long-term safety, tolerability and efficacy of brilaroxazine in patients with schizophrenia. Once daily brilaroxazine led to robust broad-spectrum efficacy that was sustained over 1-year and was generally well tolerated with a discontinuation rate of 35% in this long-term study. Brilaroxazine is a novel serotonin dopamine signaling modulator with multi-faceted direct and indirect activities on critical pathways implicated in schizophrenia.

Key safety, efficacy and compliance findings for pooled analysis of brilaroxazine (n = 446) at 15 mg (n = 140), 30 mg (n = 158), and 50 mg (n = 148) include: Dose-dependent, broad spectrum, clinically meaningful and sustained long-term (1-year) efficacy across all major symptom domains of schizophrenia.

Point Improvement from Baseline to End of Treatment for Brilaroxazine Pooled (15, 30, and 50 mg) at 6-month and 12-month, $p \leq 0.001$			
	OLE at 6-month (N=303)	**OLE at 12-month (N=159)**	**Rollover Patients, Double-blind to OLE at 13-month (N=50)**
PANSS Total Score	-10.7	-18.1	-47.7
Positive Symptoms	-3.3	-5.0	-14.0
Negative Symptoms	-2.8	-4.4	-10.5
Negative Marder Factor	-3.0	-4.4	---
PANSS Social Cognition	-1.5	-2.9	---
Personal and Social Performance	4.5	11.3	32.7
CGI-S score >1-point	37.3%	58.5%	100%
PANSS Excitement/Agitation	-1.4	-3.5	---
PANSS General Psychopathology	-4.7	-8.7	23.2

PANSS: Positive and Negative Syndrome Scale; CGI-S: Clinical Global Impression - Severity

Clinical safety, tolerability and adherence findings with pooled doses of brilaroxazine (15, 30, and 50 mg) in the OLE trial patients (N=446) support a well-tolerated safety profile:

- 8.5% of participants reported at least one treatment-emergent adverse event (TEAE), which were mostly mild (6.5%) or moderate (2.0%) in severity and transient in nature
- Most common TEAEs ≥2% were headache (2.7%), insomnia (4.0%), sleep disturbance (2.9%) and mild tremor (3.1%)
- Brilaroxazine was not associated with any clinically meaningful changes in movement disorder scales used for evaluating motor side effects such as akathisia and extrapyramidal symptoms over 1-year treatment
- Mild weight gain (1.52 kg) reported in the pooled brilaroxazine dose group over 1-year treatment. Weight gain was not dose dependent with least weight gain (1.28 kg) at 50 mg dose
- No drug related serious adverse events (SAEs) observed or major safety concerns reported for brilaroxazine after 1-year of treatment; 5 serious adverse events were reported, and none were related to brilaroxazine treatment
- No incidence of clinically significant cardiac side effects, or gastrointestinal side effects
- No incidence of drug induced liver injury (DILI)
- No significant change in blood glucose levels
- Improved lipids levels and endocrine hormone levels (prolactin, and thyroid)
- Treatment discontinuation rate of 35% reported in this one-year study primarily due to withdrawal of consent (22%), participant lost to follow up (7%) and treatment related adverse events (1.1%)

The Company believes that collectively, the Phase 3 RECOVER OLE study (52-week/1-year) findings further strengthen the safety, efficacy and treatment adherence findings in the Phase 3 RECOVER double-blind study (4-week).

The RECOVER OLE Study is a global, open-label, multicenter study to assess the safety, tolerability and efficacy of brilaroxazine at flexible doses of 15, 30 or 50 mg, administered once daily for 52-week (1-year) in patients with stable schizophrenia. The OLE study included both rollover participants from the RECOVER double-blind study and de novo participants with stable schizophrenia. Long-term safety data from 100 patients who have completed 1-year of treatment is a requirement for brilaroxazine's NDA submission to the U.S. Food and Drug Administration ("FDA").

About Brilaroxazine
Brilaroxazine is an in-house discovered new chemical entity with potent affinity and selectivity against key serotonin and dopamine receptors implicated in the pathophysiology of several conditions including schizophrenia, psoriasis and interstitial lung diseases like pulmonary hypertension, pulmonary arterial hypertension (PAH) and idiopathic pulmonary fibrosis (IPF).

Positive topline data from the global Phase 3 RECOVER trial in schizophrenia demonstrated the trial successfully met all primary and secondary endpoints with statistically significant and clinically meaningful reductions across all major symptom domains including reduction in key proinflammatory cytokines implicated in the pathophysiology of schizophrenia and comorbid inflammatory conditions at week 4 with 50 mg of brilaroxazine vs. placebo, with a generally well-tolerated side effect profile comparable to placebo and discontinuation rates *lower* than placebo. Positive data from a clinical drug-drug interaction (DDI) study investigating the potential effect of the CYP3A4 enzyme on brilaroxazine in healthy subjects supports no clinically significant interaction when combined with a CYP3A4 inhibitors. Reviva believes that a full battery of regulatory compliant toxicology and safety pharmacology studies has been completed for brilaroxazine. Reviva intends to develop brilaroxazine for other neuropsychiatric indications including bipolar disorder, major depressive disorder (MDD) and attention-deficit/hyperactivity disorder (ADHD).

Additionally, brilaroxazine has shown promising nonclinical activity for inflammatory diseases psoriasis, pulmonary arterial hypertension (PAH) and idiopathic pulmonary fibrosis (IPF) with mitigation of fibrosis and inflammation in translational animal models. Brilaroxazine has already received Orphan Drug Designation by the FDA for the treatment of PAH and IPF conditions.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

Exhibit Number	Description
99.1	Press Release issued by Reviva Pharmaceuticals Holdings, Inc., dated June 2, 2025.
99.2	Investor Presentation Materials, dated June 2, 2025.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document).

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.

REVIVA PHARMACEUTICALS HOLDINGS, INC.

Dated: June 2, 2025

By: */s/ Narayan Prabhu*
Name: Narayan Prabhu
Title: Chief Financial Officer

Exhibit 99.1

Reviva Announces Positive Full Dataset for 1-Year Phase 3 RECOVER Open Label Extension Study Evaluating Brilaroxazine in Schizophrenia

– Robust broad-spectrum efficacy sustained over 1-year across all symptom domains including negative symptoms –

– Generally well-tolerated with low rates of adverse events and discontinuation –

– Brilaroxazine improved multiple neuroinflammatory markers reported to enhance efficacy and mitigate side effects –

– Virtual investor webcast today at 8:00 a.m. EDT –

Cupertino, Calif., June 2, 2025 – Reviva Pharmaceuticals Holdings, Inc. (NASDAQ: RVPH) ("Reviva" or the "Company"), a late-stage pharmaceutical company developing therapies that seek to address unmet medical needs in the areas of central nervous system (CNS), inflammatory and cardiometabolic diseases, today announced a positive full dataset and successful completion of the Company's Phase 3 RECOVER open-label extension (OLE) 1-year study evaluating the long-term safety, tolerability and efficacy of brilaroxazine in patients with schizophrenia. Once daily brilaroxazine led to robust broad-spectrum efficacy that was sustained over 1-year and was generally well tolerated with a discontinuation rate of 35% in this long-term study. Brilaroxazine is a novel serotonin dopamine signaling modulator with multi-faceted direct and indirect activities on critical pathways implicated in schizophrenia. To register for the virtual investor webcast being held today, June 2, 2025 at 8:00 a.m. EDT regarding the OLE trial data, please visit https://lifescievents.com/event/h4p8mx9cj0w/.

"We are pleased to complete the positive registrational trial for our brilaroxazine program in schizophrenia and generate long-term data reinforcing brilaroxazine's consistent, wide-spectrum efficacy, and well-tolerated safety profile," said Laxminarayan Bhat, Ph.D., Founder, President, and CEO of Reviva. "Importantly, the additional multiple biomarker data serve as independent measures of efficacy that further support improvements across all major symptom domains of schizophrenia. Our clinical program continues to advance towards registration, and we look forward to bringing brilaroxazine to more patients globally as fast as possible."

Dr. Stephen R Marder, MD, Professor, Psychiatry and Biobehavioral Sciences at the University of California, Los Angeles added, "Dissatisfaction with current standards of care is largely driven by persistent negative symptoms and poor functional outcomes. The robust improvement in negative symptoms and sustained broad-spectrum efficacy support the potential of brilaroxazine to address these unmet needs."

Dr. Larry Ereshefsky, PharmD, BCPP, FCCP, Retired Professor of Psychiatry, Pharmacology and Psychiatry, The University of Texas added, "Brilaroxazine improved multiple biomarkers including reduced levels of inflammatory cytokines that could contribute to enhanced efficacy and mitigate side effects. The impact of reduced inflammation on symptoms may result in improved patient adherence and clinical outcomes. The low discontinuation rates observed in the double-blind and OLE trials are consistent with this beneficial treatment profile."

Key safety, efficacy and compliance findings for pooled analysis of brilaroxazine (n = 446) at 15 mg (n = 140), 30 mg (n = 158), and 50 mg (n = 148) include: Dose-dependent, broad spectrum, clinically meaningful and sustained long-term (1-year) efficacy across all major symptom domains of schizophrenia.

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Webcast Information
To register for the virtual investor webcast being held today, June 2, 2025 at 8:00 a.m. EDT regarding the OLE trial data, please visit https://lifescievents.com/event/h4p8mx9cj0w/. Subsequent to today's live webcast, a replay will be made available on Reviva's website at https://revivapharma.com/events. The archived version of the webcast will be available on the Company's website for at least 30 days.

About Brilaroxazine
Brilaroxazine is an in-house discovered new chemical entity with potent affinity and selectivity against key serotonin and dopamine receptors implicated in the pathophysiology of several conditions including schizophrenia, psoriasis and interstitial lung diseases like pulmonary hypertension, pulmonary arterial hypertension (PAH) and idiopathic pulmonary fibrosis (IPF).

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Additionally, brilaroxazine has shown promising nonclinical activity for inflammatory diseases psoriasis, pulmonary arterial hypertension (PAH) and idiopathic pulmonary fibrosis (IPF) with mitigation of fibrosis and inflammation in translational animal models. Brilaroxazine has already received Orphan Drug Designation by the FDA for the treatment of PAH and IPF conditions. To learn more about the clinical and preclinical data available for brilaroxazine, please visit revivapharma.com/publications.

About Reviva

Reviva is a late-stage biopharmaceutical company that discovers, develops, and seeks to commercialize next-generation therapeutics for diseases representing unmet medical needs and burdens to society, patients, and their families. Reviva's current pipeline focuses on the central nervous system (CNS), inflammatory and cardiometabolic diseases. Reviva's pipeline currently includes two drug candidates, brilaroxazine (RP5063) and RP1208. Both are new chemical entities discovered in-house. Reviva has been granted composition of matter patents for both brilaroxazine and RP1208 in the United States, Europe, and several other countries.

Forward-Looking Statements

This press release contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act, as amended, including those relating to the Company's expectations regarding the anticipated clinical profile of its product candidates, including statements regarding anticipated efficacy or safety profile, and those relating to the Company's expectations, intentions or beliefs regarding matters including product development, clinical and regulatory timelines and expenses, planned or additional studies, planned or intended regulatory submissions, the timing of availability of additional data or initiation of additional trials, market opportunity, ability to raise sufficient funding, competitive position, possible or assumed future results of operations, business strategies, potential opportunities for development including partnerships, growth or expansion opportunities and other statements that are predictive in nature. These forward-looking statements are based on current expectations, estimates, forecasts and projections about the industry and markets in which we operate and management's current beliefs and assumptions.

These statements may be identified by the use of forward-looking expressions, including, but not limited to, "expect," "anticipate," "intend," "plan," "believe," "estimate," "potential, "predict," "project," "should," "would" and similar expressions and the negatives of those terms. These statements relate to future events or our financial performance and involve known and unknown risks, uncertainties, and other factors which may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include those set forth in the Company's most recent Annual Report on Form 10-K for the fiscal year ended December 31, 2024, and the Company's other filings from time to time with the Securities and Exchange Commission. Prospective investors are cautioned not to place undue reliance on such forward-looking statements, which speak only as of the date of this press release. The Company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise.

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Reviva Pharmaceuticals

Phase 3 RECOVER Open-Label Extension (OLE) Trial of Brilaroxazine in Schizophrenia

June 2, 2025 at 8:00am EDT

Forward-Looking Statements

This presentation contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 and Private Securities Litigation Reform Act, as amended, including those relating to the Company's expectations regarding the anticipated clinical profile of its product candidates, including statements regarding anticipated efficacy or safety profile, and those relating to the Company's expectations, intentions or beliefs regarding matters including product development and clinical trial plans, clinical and regulatory timelines and expenses, planned or intended additional trials and the timing thereof, planned or intended regulatory submissions and the timing thereof, the timing of availability of additional data or initiation of additional trials, trial results, market opportunity, ability to raise sufficient funding, competitive position, possible or assumed future results of operations, business strategies, potential growth, financing, partnership, expansion and other opportunities and other statements that are predictive in nature. These forward-looking statements are based on current expectations, estimates, forecasts and projections about the industry and markets in which we operate and management's current beliefs and assumptions. These statements may be identified by the use of forward-looking expressions, including, but not limited to, "expect," "anticipate," "intend," "plan," "believe," "estimate," "potential," "predict," "project," "should," "would" and similar expressions and the negatives of those terms. These statements relate to future events or the Company's financial performance and involve known and unknown risks, uncertainties, and other factors, on the Company's operations, clinical development and clinical trial plans and timelines, which may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include those set forth in the Company's most recent Annual Report on Form 10-K for the fiscal year ended December 31, 2024, and the Company's other filings from time to time with the Securities and Exchange Commission (the "SEC"). Prospective investors are cautioned not to place undue reliance on such forward-looking statements, which speak only as of the date of this presentation. The Company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise.

The Company's SEC filings are available on the SEC's website at www.sec.gov. Given these uncertainties, you should not place undue reliance on these forward-looking statements, which apply only as of the date of this presentation and should not be relied upon as representing the Company's views as of any subsequent date. The Company explicitly disclaims any obligation to update any forward-looking statements, other than as may be required by law. If the Company does update one or more forward-looking statements, no inference should be made that the Company will make additional updates with respect to those or other forward-looking statements.

This presentation also contains estimates and other statistical data made by independent parties and by the Company relating to market size and growth and other data about the Company's industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates.

Agenda

One	**Welcome and Introduction**	Welcome and Introduction Laxminarayan Bhat, PhD, Founder, President and CEO Reviva Pharmaceuticals
Two	**Brilaroxazine Phase 3 RECOVER OLE Trial Efficacy Results**	Stephen R Marder, MD Professor, Psychiatry and Biobehavioral Sciences University of California, Los Angeles
Three	**Brilaroxazine Phase 3 RECOVER OLE Trial Safety, Tolerability and Compliance Results**	Larry Ereshefsky, PharmD, BCPP, FCCP, Retired professor of Psychiatry, Pharmacology and Psychiatry, The University of Texas; Chief Scientific Officer, Owner, Follow the Molecule LLC
Four	**Q&A Session**	Q&A Session

Stephen R Marder, MD

Professor, Psychiatry and Biobehavioral Sciences

University of California, Los Angeles

Steve Marder is the Daniel X. Freedman Professor of Psychiatry, the Vice Chair for Education, and the Director of the Section on Psychosis at the UCLA Semel Institute for Neuroscience and Human Behavior. He is also the Director of the VISN 22 Mental Illness Research, Education Clinical Center (MIRECC) for the Department of Veterans Affairs. Dr. Marder's research has focused on improving the lives of individuals with psychotic disorders, particularly schizophrenia. His research -- supported by the VA, the Brain and Behavior Research Foundation, and the National Institute of Mental Health -- has focused on the development of pharmacological, psychosocial, and rehabilitation approaches for improving functioning and quality of life. He led the NIMH MATRICS (Management and Treatment Research to Improve Cognition in Schizophrenia) initiative which provided guidance for the development of pharmacologic agents to improve cognition and motivation in schizophrenia. He also led an NIMH Network for trials of medications for improving cognition in schizophrenia. From 2016 to 2018 he was the President of the International Society of CNS Clinical Trials and Methodology. He is considered an expert on clinical trials methods for complex CNS disorders, particularly schizophrenia. Dr. Marder has received the Exemplary Psychiatrist Award from the National Alliance for the Mentally Ill, the Stanley Dean Research Award of the American College of Psychiatry, the Alexander Gralnick Award from the American Psychiatric Association, the Kempf Award from the American Psychiatric Association, the American Psychiatric Association Award for Research, the Wayne Fenton Award for Outstanding Clinical Care from the Schizophrenia Bulletin, and the Lieber Prize for Schizophrenia Research.

Larry Ereshefsky, PharmD, BCPP, FCCP

Retired professor of Psychiatry, Pharmacology and Psychiatry the University of Texas

Chief Scientific Officer, Owner of Follow the Molecule LLC

Larry Ereshefsky over his 45 years' career applies his experience as a clinician, scientist and investigator, to develop treatments and innovate clinical methodologies to make a difference in the lives of patients with Neurodegenerative and Psychiatric Disorders. He has contributed significantly to several drug approvals spanning neurology and psychiatry. He has designed, implemented, supervised, and/or conducted >125 CNS and clinical pharmacology clinical trials ranging from first into patient through to proof of concept, implements Asian Bridging strategies, and has overseen large global Phase III registration trials. He is a leader in the use of signal detection and subject strategies to minimize placebo. Dr. Ereshefsky's contributions, from the unique perspective of a clinical scientist (clinical psychiatric pharmacist and psychopharmacologist) has supported clinical development planning, PK/PD evaluations, translational strategies, and methodological innovation for Schizophrenia, Depression, Bipolar Disorder, Parkinson's (PD), Alzheimer's Diseases (AD), and pain indications. He currently focuses on strategies to de-risk early development through proof of concept. Currently he is the Chief Science Officer (CSO) and owner of Follow the Molecule LLC, providing consulting services to pharma, CROs, and technology vendors. He is also CSO for Clinical Sciences by CenExel Research.

He is a retired Regents Professor of Pharmacy, Psychiatry, and Pharmacology from The University of Texas. Previously, he was the CSO and EVP for California Clinical Trials, acquired by PAREXEL International where his role was VP, Principal Pharmacologist and Therapeutic Area Leader for CNS Early Phase with Global responsibilities. He previously served as CSO for APEX Innovative Sciences (minority owner) including their 2 x 80 bed early phase research units (CNS Network, CA and Hassman Research Institute, NJ). His leadership in developing/applying a translational 'tool-kit' for drug development includes neurocircuitry/biomarker based (RDoC) strategies, i.e., continuous CSF sampling, QEEG, ERP, PSG, sMRI, fMRI, MRS, PET, QST pain models, and cognitive and behavioral paradigms. As co-head of The Advanced Pharmacology and Evaluation Lab at UT, his team made pioneering contributions to understand the relationship of CYP pharmacogenetics, drug interactions, and the environment upon the PK/PD of drugs. He served twice on the FDA Psychopharmacological Drugs Advisory Committee. His PharmD and Residency in Psychopharmacology and Clinical Pharmacy were at the University of Southern California and LA County Medical Center and is Board Certified in Clinical Psychopharmacy.

Results of brilaroxazine Phase 3 RECOVER trial long-term efficacy, safety and compliance in schizophrenia

KOL webinars on brilaroxazine phase 3 RECOVER trial in acute schizophrenia:
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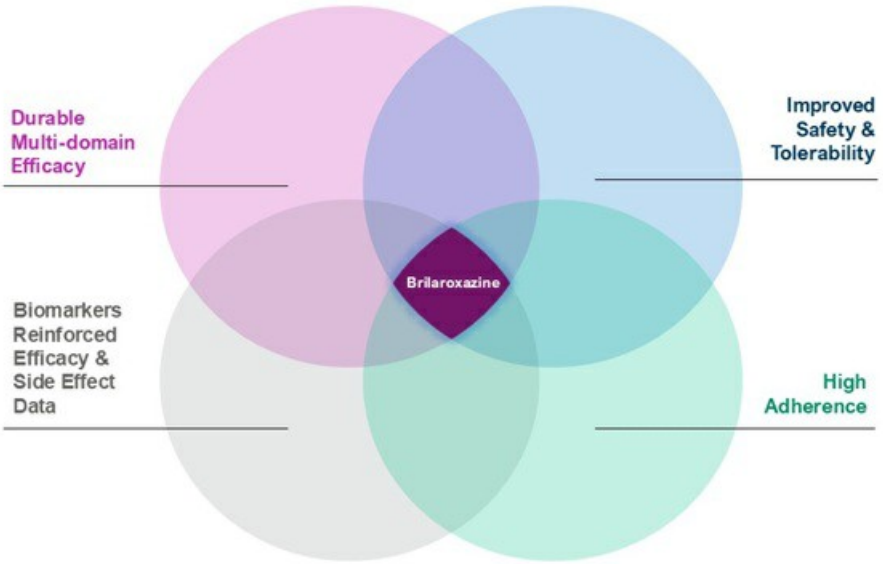
chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://revivapharma.com/wp-content/uploads/2023/10/Reviva-RECOVER-Topline-Results-Presentation_October-2023.pdf

Brilaroxazine

Differentiated clinical profile with potential to address unmet needs across the treatment of schizophrenia



Positive Registrational Trials for Brilaroxazine in Schizophrenia

Completed required NDA-enabling safety pharmacology, toxicology & carcinogenicity studies, & CMC development

PHASE 1A and 1B, Clin Pharm Studies (N≈150)	PHASE 2 REFRESH NCT01490086	PHASE 3 RECOVER DB NCT05184335	PHASE 3 RECOVER OLE NCT05184335
Phase 1A Healthy subjects, double-blind, safety and tolerability, pharmacokinetics (PK)	**N = 234 (4-Week) Acute schizophrenia or schizoaffective disorder**	**N = 411 (4-Week) Acute schizophrenia**	**N = 446 (52-Week/1-Year) Stable schizophrenia**
Phase 1B Stable schizophrenia patients, double-blind, POC efficacy, safety and tolerability, PK	Efficacy and safety of brilaroxazine vs placebo	Efficacy and safety of brilaroxazine vs placebo	Long-term safety/tolerability, efficacy and compliance of brilaroxazine
ADME & Bioavailability Once daily brilaroxazine, ~72% bioavailability	3:3:2 Randomized, 4-week, double-blind, placebo-controlled, multicenter	1:1:1 Randomized, 4-week, double-blind, placebo-controlled, multicenter	Open label,1-year outpatient extension of RECOVER
Drug-drug Interactions No clinically significant drug-drug interactions	Once daily brilaroxazine 15, 30, 50 mg	Once daily brilaroxazine 15, 50 mg	Once daily brilaroxazine 15, 30, 50 mg flexible dose
	Completed and met primary and multiple secondary endpoints	Completed and met primary and multiple secondary endpoints	Completed and met primary and multiple secondary endpoints

Brilaroxazine Phase 3 Study (RECOVER) Long-term Efficacy and Compliance Results

Stephen R Marder, MD
Professor, Psychiatry and Biobehavioral Sciences
University of California, Los Angeles

Schizophrenia: Common Psychiatric Condition With Multiple Symptom Domains

Affects ~1.1% of the world's population
- ~ 24 million people globally
- ~ 3.5 million people in USA

Mix of heterogenous psychotic symptoms with varying degrees of severity

Most patients requires lifelong treatment

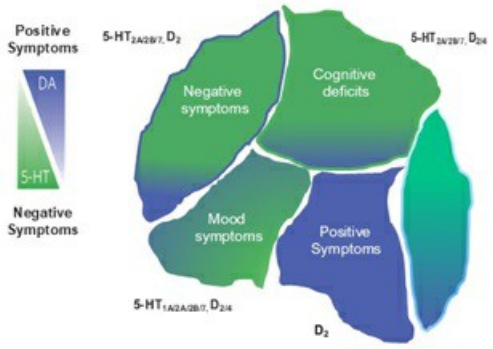
~30% of patients are treatment refractory

Neuroinflammation is implicated as major contributing factor to schizophrenia

Negative symptoms and nonadherence to treatment are the top unmet needs

Major Symptom Domains of Schizophrenia

Primarily driven by dysfunctional serotonin and dopamine signaling



D = Dopamine signaling/ and 5-HT = Serotonin signaling
Negative symptoms include social withdrawal, avolition, alogia, anhedonia, disorganized behavior, and poor self-care.

Source: DelveInsight Market Research 2023; https://www.mentalhelp.net/schizophrenia/statistics/; https://www.who.int/news-room/fact-sheets/detail/mental-disorders; https://therecreab.com/schizophrenia/statistics; https://www.nimh.nih.gov/health/statistics/schizophrenia; Kane JM et al. J Clin Psychology 2019; 80(2):18dom12123. Divoye C et al. Neuropsychopharmacology 2018; 109:59068; peng l et al. Expert Review of Neurotherapeutics 2018; 18(5):435-442; Nikiforuk et al. CNS Drugs 2015; 29:265-275; Tan T et al. Schizophrenia Bulletin 2017; 45(5): 1012-1023.

No Current Therapies Address all Needs of Patients with Schizophrenia

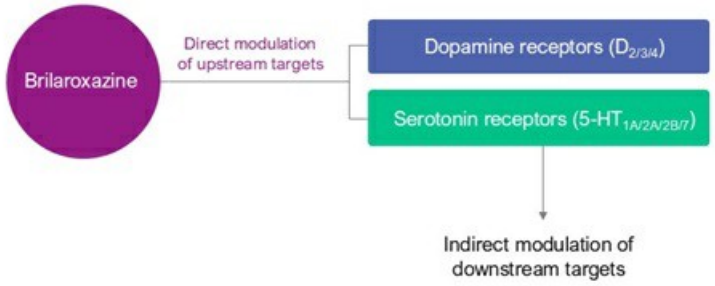
Suboptimal efficacy and side effects of current treatments continue to limit long-term use for this chronic condition

Leading to high discontinuation rates and non-compliance

Source: Torres-Gonzalez F et al, Neuropsychiatric Disease and Treatment 2014, 10:97-110; Stroup T S and Gray N, World Psychiatry 2018, 17:341-356; Levin, S.Z. et al., Schizophrenia Research 2015, 164:122-126; Ermakov EA. et al., Frontiers in neuroscience 2022, 13:880568; Reale M et al. Frontiers in Psychiatry 2021, 12:536257; Monji A et al. Japanese Society of Psychiatry and Neurology 2009, 63:257-265; Bhat L, et al. Medical Research Archives 2023, 11(4):3834

Brilaroxazine: Novel Serotonin Dopamine Signaling Modulator

Multi-faceted direct and indirect activities on critical pathways implicated in schizophrenia



Brilaroxazine Receptor Activities

High (Ki, nM)*	Dopamine D_2	0.47
	Dopamine D_3	3.7
	Dopamine D_4	6
(5-HT_{2B} > D_2)	Serotonin 5-HT_{1A}	1.5
	Serotonin 5-HT_{2A}	2.5
	Serotonin 5-HT_{2B}	**0.19**
	Serotonin 5-HT_7	2.7
Moderate (Ki, nM)	Nicotine $\alpha_4\beta_2$	36.3
	Serotonin 5-HT_6	51
Weak or no significant activity	No significant activities at therapeutic dose for off-targets 5-HT_{2C}, $\alpha_{1,2}$, and M_{1-4} implicated in cardiometabolic, metabolic, or GI side effects	

** partial agonists for $D_{2,3,4}$ and 5-$HT_{1A/2A}$ receptors*

Inflammatory cytokines
Implicated in inflammation and immune dysfunction

Nicotinic receptors
Implicated in positive symptoms and cognition

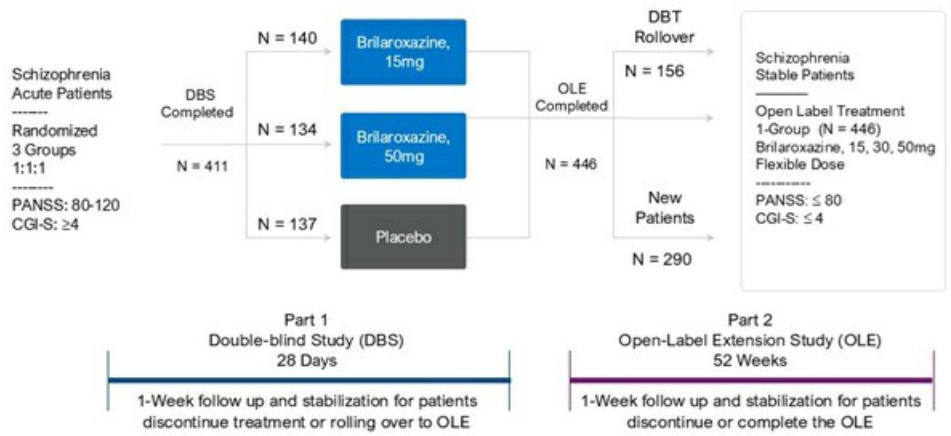
NMDA/Glycine receptors
Implicated in negative symptoms and cognition

GABA receptors
Implicated in mood

Bhat L, et al. Medical Research Archives 2023, 11(4):3834; Rajagopal et al, Behavioral Brain Research 2017, 332;180-199

Brilaroxazine Phase 3 RECOVER Trial For Schizophrenia

Phase 3, Randomized, 28 Days, Double-blind, Placebo-controlled, Multicenter Study to Assess the Safety and Efficacy of Brilaroxazine in Subjects with an Acute Exacerbation of Schizophrenia, Followed by a 52-Week Open-label Extension



Study Overview

Primary Endpoint (DBS):
Reduction in total PANSS at the end of treatment in a brilaroxazine arm from baseline versus placebo

Safety (DBS, OLE):
Clinical, labs, body weight, lipids, fasting glucose, prolactin

Pharmacokinetics:
Population pharmacokinetics

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For details see: www.clinicaltrials.gov (search key word, RP5063)

Brilaroxazine Phase 3 Trial: Favorable Efficacy, Safety & Discontinuation

Strong broad-spectrum efficacy further supported by vocal biomarker (VBM) and blood biomarkers

Symptom Domains & Adherence

All Patients
Brila 50mg vs Placebo

	Point Improvement	*Cohen's d Effect Size*
PANSS Total Score	10.1	*0.6*
Positive Symptoms	2.8	*0.5*
Negative Symptoms	2.0	*0.4*
Negative Marder Factor	2.1	*0.4*
PANSS Social Cognition	1.6	*0.5*
Personal & Social Performance	6.3	*0.5*
CGI-S score	≥1	*0.5*
PANSS Excitement/Agitation	2.1	*0.5*
PANSS Gen Psychopathology	-8.7	*0.6*
Treatment Discontinuation	**16%** brilaroxazine	**22%** placebo

Digital Biomarkers, VBM

Prominent Negative Symptoms
Brila 50mg vs Placebo (VBM Positive)

Point Improvement	*Cohen's d Effect Size*
15	*0.9*
3.5	*0.8*
3.7	*0.6*
3.8	*0.8*
6.3	*0.6*
≥1	*0.7*

Cohen et al CNS Summit 2024, ISCTM 2025

Blood Biomarkers

All Patients

Neurotrophins*
BDNF

Hormones*
Prolactin*
Thyroid T3*

Cytokines*
IL-6#
IL-8
IL-10
IFN-γ/IP-10
MIP-1

*Significant improvement, P≤0.05
#Separated from placebo but NS

Bhat L et al ASCPT 2024 (Poster #LB008) and SIRS 2024 (Poster #T291)

RECOVER Open-Label Trial Demographics and Baseline Characteristics

Diverse patient representation with balanced enrollment across 3 doses (N=446)

	Brilaroxazine 15 mg	Brilaroxazine 30 mg	Brilaroxazine 50 mg	Pooled 15+30+50 mg
Patients enrolled, N	140	158	148	446*
Male, N (%) Female, N (%)	82 (58.6) 58 (41.4)	102 (64.6) 56 (35.4)	102 (68.9) 46 (31.1)	286 (64.1) 160 (35.9)
Age (years) Mean (SD)	42.1 (13.20)	38.7 (10.79)	36.0 (8.53)	38.9 (11.20)
Baseline PANSS total score Mean (SD)	63.9 (12.19)	68.8 (13.43)	75.5 (15.67)	69.5 (14.60)
Baseline PANSS positive score Mean (SD)	15.7 (4.57)	17.0 (4.36)	18.9 (5.25)	17.2 (4.90)
Baseline PANSS negative score Mean (SD)	17.8 (4.58)	18.6 (4.78)	20.4 (5.21)	19.0 (4.98)
Baseline CGI score ≤4, N (%) score ≥4, N (%)	136 (97.1) 4 (2.8)	150 (94.9) 8 (5.0)	123 (83.1) 25 (25.6)	409 (91.7) 37 (8.3)

*Rollover from double-blind, N=156 and de novo, N=290

PANSS: Positive and Negative Syndrome Scale; CGI-S: Clinical Global Impression Severity

Schizophrenia: Clinical Evaluation

Scales and tools for evaluating brilaroxazine treatment effects in RECOVER trial for schizophrenia

Positive and Negative Syndrome Scale (PANSS)

Gold-standard outcome for antipsychotic efficacy, used in multinational clinical trials for >30 years (Kay, Opler, et al.)

PANSS Total score: Accepted primary endpoint by regulatory agencies with demonstrated reliability and validity across languages and cultural contexts as overall measure of disease severity.

PANSS Positive Factor: Hallucinations, delusions, and related features of psychosis.

PANSS Negative & Social Cognition Factors: Measures of social & emotional functioning.

PANSS Positive & Agitation Factor: Acute symptoms of excitement and hostility

Personal and Social Performance Scale (PSP)

Evaluates interpersonal, daily functioning, and quality of life, critical domains for patients with schizophrenia working towards recovery.

Clinical Global Impressions Scale (CGI)

Standardized tool to summarize global patient status

Maintaining Data Quality

RECOVER used state-of-the-art methods developed by WCG Inc., similar to those used in other clinical development programs which have led to regulatory approval to help ensure accuracy & data quality:

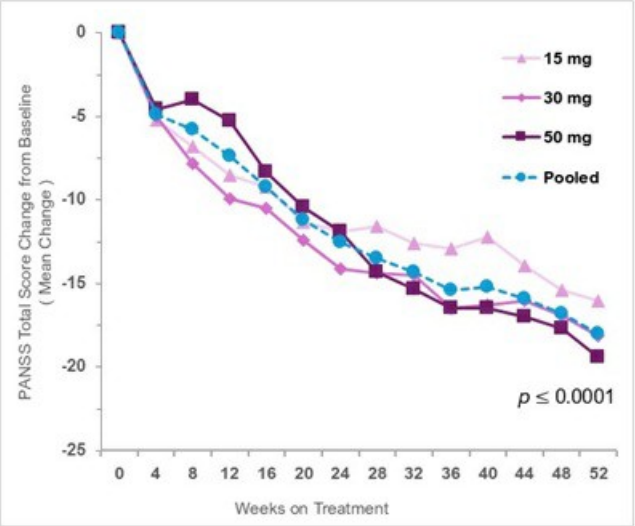
- Clinical rater training and calibration was conducted for all outcome measures.
- Independent review of video-recorded assessments was used to verify PANSS scores and standardize ratings.
- Blinded data analytics were conducted to monitor and reduce potential sources of noise and random error.

PANSS Total Score: Robust Broad-Spectrum Efficacy Sustained Over 1-year

18-point decrease with brilaroxazine pooled (15, 30, and 50 mg) at Week-52 vs. baseline ($p \leq 0.0001$; n = 159)

CHANGE IN PANSS TOTAL SCORE

- Dose dependent decrease from baseline to Week-52 (1-year)
  - 16.0-point decrease in 15 mg (61.2 → 45.2)
  - 18.0-point decrease in 30 mg (69.7 → 51.7)
  - 19.4-point decrease in 50 mg (75.6 → 56.2)
  - 18.1-point decrease in pooled (69.9 → 51.8)
- Strong sustained efficacy from acute through maintenance treatment over 1-year treatment
- Decrease in PANSS total score in rollover patients from the double-blind trial to OLE over 1-year treatment (Baseline to Week-56):
  - 46.1-point decrease in 15 mg
  - 49.6-point decrease in 50 mg



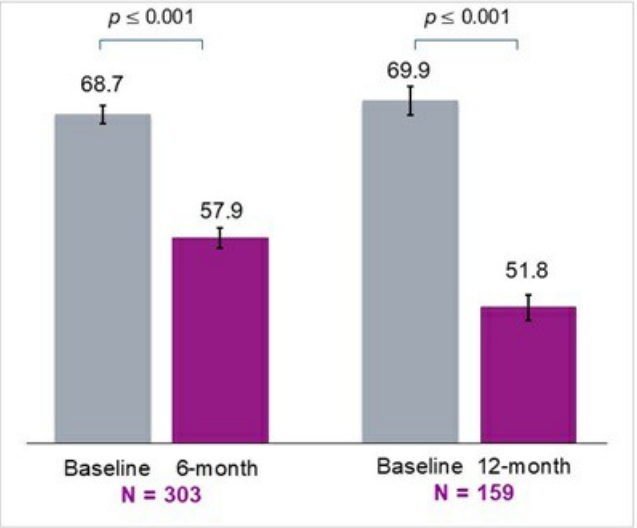
PANSS: Positive and Negative Syndrome Scale

PANSS Total Score: Time and Dose-Dependent Decrease

10.8-point (6-mos) & 18-point (12-mos) decrease with brilaroxazine pooled (15, 30 & 50 mg) vs baseline ($p \leq 0.001$)

PANSS TOTAL SCORE

- Clinically meaningful and sustained long-term efficacy
- Significant decrease with brilaroxazine pooled (15, 30, & 50 mg) vs. baseline ($p \leq 0.0001$):
  - 10.8-point decrease at 6-month (68.7 → 57.9)
  - 18.1-point decrease at 12-month (69.9 → 51.8)
- Decrease in PANSS Total score in rollover patients from the double-blind trial to OLE treatment at 13-month (Baseline to Week-56):
  - 46.1-point decrease in 15 mg (94.4 → 51.3)
  - 49.6-point decrease in 50 mg (102.7 → 53.1)

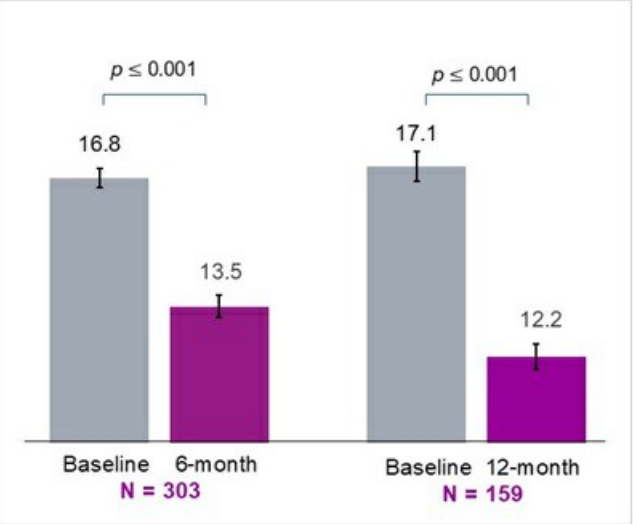


PANSS Positive Symptoms Score: Time & Dose-Dependent Decrease

3.3-point (6-mos) & 5-point (12-mos) decrease with brilaroxazine pooled (15, 30 & 50 mg) vs baseline ($p \leq 0.001$)

DECREASE IN POSITIVE SYMPTOMS

- Clinically meaningful and sustained long-term efficacy
- Significant decrease with brilaroxazine pooled (15, 30, & 50 mg) vs. baseline ($p \leq 0.0001$):
  - 3.3-point decrease at 6-month (16.8 → 13.5)
  - 5.0-point decrease at 12-month (17.1 → 12.2)
- Decrease in PANSS positive symptom score in rollover patients from the double-blind trial to OLE treatment at 13-month (Baseline to Week-56) :
  - 13.3-point decrease in 15 mg (25.7 → 12.4)
  - 14.8-point decrease in 50 mg (27.0 → 12.2)

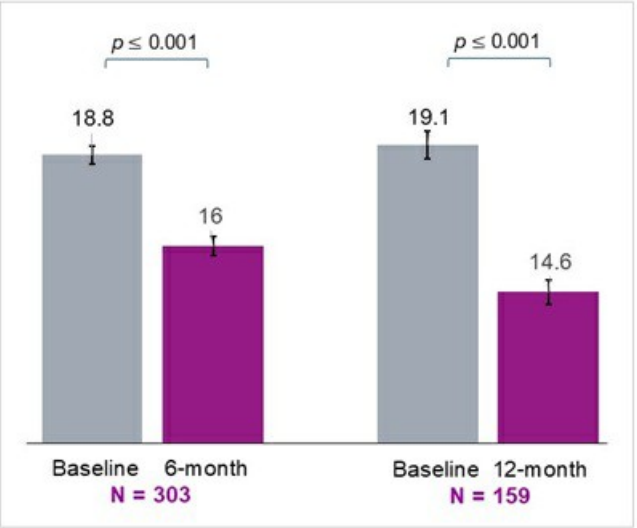


PANSS Negative Symptoms Score: Time & Dose-Dependent Decrease

2.8-point (6-mos) & 4.4-point (12-mos) decrease with brilaroxazine pooled (15, 30 & 50 mg) vs baseline ($p \leq 0.001$)

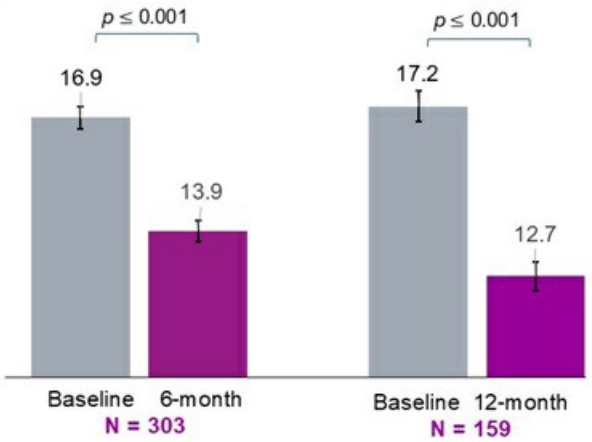
DECREASE IN NEGATIVE SYMPTOMS

- Clinically meaningful and sustained long-term efficacy
- Significant decrease with brilaroxazine pooled (15, 30, & 50 mg) vs. baseline ($p \leq 0.0001$):
  - 2.8-point decrease at 6-month (18.8 → 16.0)
  - 4.5-point decrease at 12-month (19.1 → 14.6)
- Decrease in PANSS negative symptom score in rollover patients from the double-blind trial to OLE treatment at 13-month treatment (Baseline to Week-56):
  - 10.5 -point decrease in 15 mg (24.6 → 14.1)
  - 10.7-point decrease in 50 mg (25.9 → 15.2)



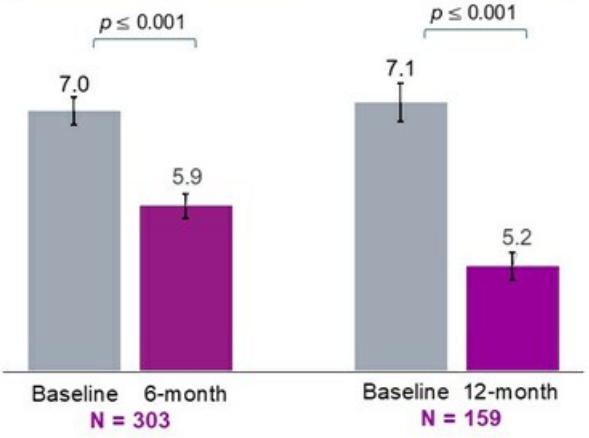
PANSS Marder Scores for Negative Symptoms and Depression/Anxiety Symptoms

PANSS MARDER SCORES FOR NEGATIVE SYMPTOMS



3.0-point (6-mos) & 4.5-point (12-mos) decrease with brilaroxazine pooled (15, 30 & 50 mg) vs baseline

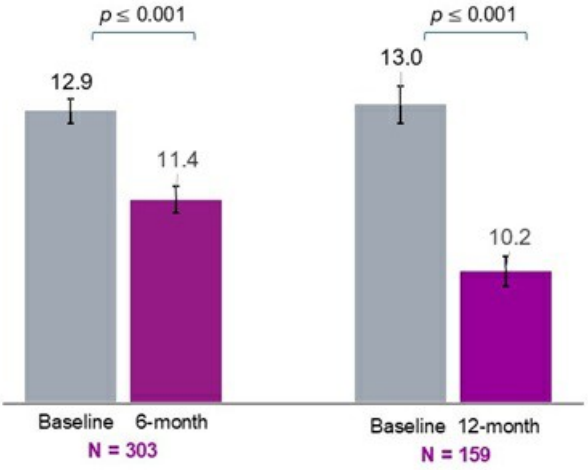
PANSS MARDER SCORES FOR DEPRESSION/ANXIETY SYMPTOMS



1.1-point (6-mos) & 1.9-point (12-mos) decrease with brilaroxazine pooled (15, 30 & 50 mg) vs baseline

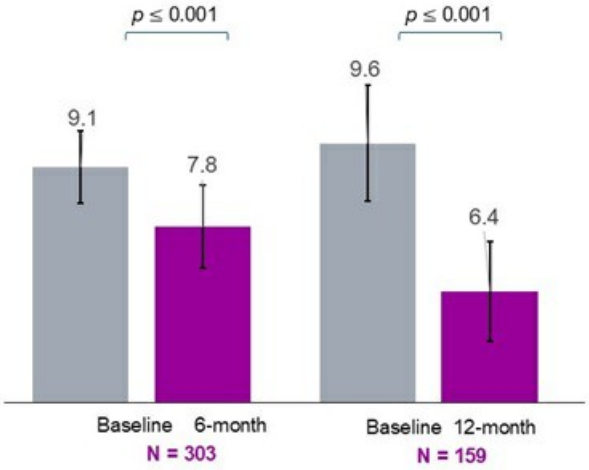
PANSS Scores for Excitement/Agitation and Social Cognition Symptoms

DECREASE IN SOCIAL COGNITION SYMPTOMS



1.5-point (6-mos) & 2.8-point (12-mos) decrease with brilaroxazine pooled (15, 30 & 50 mg) vs baseline

DECREASE IN AGITATION/EXCITEMENT SYMPTOMS



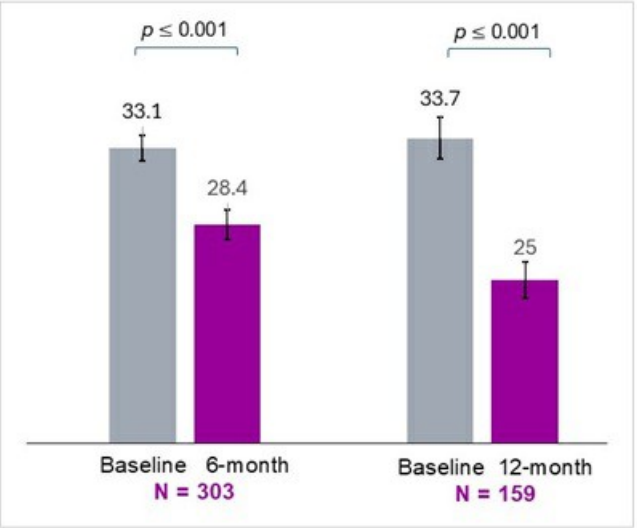
1.3-point (6-mos) & 3.2-point (12-mos) decrease with brilaroxazine pooled (15, 30 & 50 mg) vs baseline

PANSS General Psychopathology Score: Time & Dose-Dependent Decrease

4.7-point (6-mos) & 8.7-point (12-mos) decrease with brilaroxazine pooled (15, 30 & 50 mg) vs baseline ($p \leq 0.001$)

DECREASE IN GENERAL PSYCHOTIC SYMPTOMS

- Clinically meaningful and sustained long-term efficacy
- Significant decrease with brilaroxazine pooled (15, 30, & 50 mg) vs. baseline ($p \leq 0.0001$):
  - 4.7-point decrease at 6-month (33.1 → 28.4)
  - 8.7-point decrease at 12-month (33.7 → 25.0)
- Decrease in PANSS general psychopathology score in rollover patients from the double-blind trial to OLE treatment at 13-month treatment (Baseline to Week-56):
  - 22.3 -point decrease in 15 mg (47.1 → 24.8)
  - 24.2-point decrease in 50 mg (49.9 → 25.7)

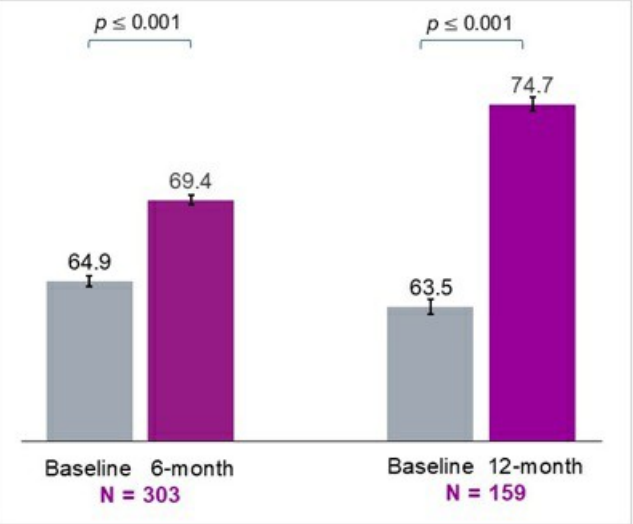


Personal & Social Performance Scores: Time & Dose-Dependent Increase

4.5-point (6-mos) & 11.2-point (12-mos) increase with brilaroxazine pooled (15, 30 & 50 mg) vs baseline ($p \leq 0.001$)

IMPROVEMENT IN PERSONAL & SOCIAL PERFORMANCE

- Clinically meaningful and sustained long-term efficacy
- Significant improvement with brilaroxazine pooled (15, 30, & 50 mg) vs. baseline ($p \leq 0.001$):
  - 4.5-point increase at 6-month (64.9 → 69.4)
  - 11.2-point increase at 12-month (63.5 → 74.7)
- Improvement in functional outcome in rollover patients from the double-blind trial to OLE treatment at 13-month (Baseline to Week-56):
  - 31.9 -point increase in 15 mg (43.9 → 75.8)
  - 33.7-point increase in 50 mg (42.4 → 76.1)

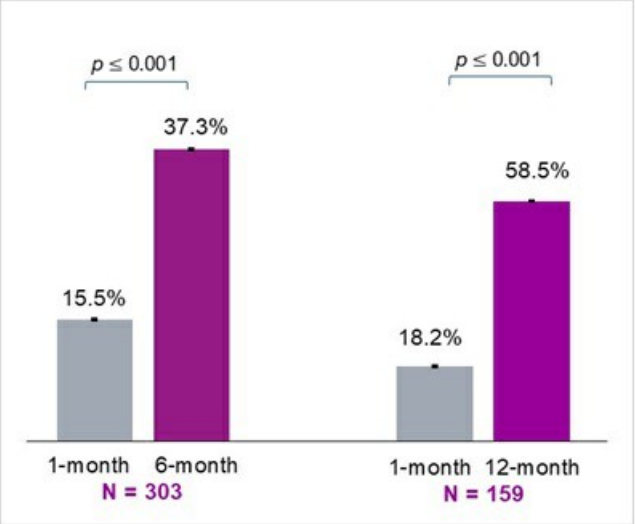


CGI-S Score: Clinically Meaningful Improvement (>1 point)

37.3% (6-mos) & 58.5% (12-mos) of patients showed >1-point improvement with brilaroxazine pooled (15, 30, & 50 mg) vs. baseline ($p \leq 0.001$)

PATIENTS WITH >1 POINT IMPROVEMENT ON CGI-S SCALE

- Clinically meaningful and sustained long-term efficacy
- Significant number of patients showed >1 point improvement in CGI-S scores with brilaroxazine pooled (15, 30, & 50 mg) vs. baseline ($p \leq 0.001$):
  - 37.3% improvement at 6-month
  - 58.5% improvement at 12-month
- Number of patients showed >1 point improvement in CGI-S scores in rollover patients from the double-blind trial to OLE treatment at 13-month (baseline to week-56):
  - 100% in 15 mg
  - 100% in 50 mg



CGI-S: Clinical Global Impression Severity

Brilaroxazine Phase 3 Trial OLE: Favorable Efficacy & Discontinuation

Significant Improvements across all three doses of brilaroxazine from baseline to EOT (N=446)

	Symptom Domains & Adherence			Blood Biomarkers
	All Patients			All Patients
	OLE Point Improvement* at 6M (N=303)	OLE Point Improvement* at 12 M (N=159)	Rollover Patients DB Trial to OLE Point Improvement* at 13 M (N= 50)	**Neurotrophins** BDNF#
PANSS Total Score	-10.7	-18.1	-47.7	**Hormones** Prolactin* Thyroid T3*
Positive Symptoms	-3.3	-5.0	-14.0	
Negative Symptoms	-2.8	-4.4	-10.5	
Negative Marder Factor	-3.0	-4.4	---	**Cytokines** IL-6# IL-8 IL-10* IFN-γ/IP-10* MIP-1*
PANSS Social Cognition	-1.5	-2.9	---	
Personal & Social Performance	4.5	11.3	32.7	
CGI-S score >1-point	37.3%	58.5%	100%	
PANSS Excitement/Agitation	-1.4	-3.5	---	
PANSS Gen Psychopathology	-4.7	-8.7	23.2	
Treatment Discontinuation	**35%**			

*Baseline to EOT, P = ≤0.001

*Improvement, P= ≤0.05, #P=0.07

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RECOVER Conclusions: Wide-spectrum Durable Efficacy with Brilaroxazine

CONSISTENT, WIDE-SPECTRUM EFFICACY	Improvement in multiple domains including: positive, negative, agitation, social cognitive symptoms, and general psychopathology Improved measures of functioning and quality of life
WELL-CONDUCTED TRIAL, HIGH-QUALITY DATA	Data quality was continuously monitored for trial duration utilizing validated methods to reduce error and placebo response with standardized training & calibration of the PANSS scale and blinded monitoring of clinician and site performance
FAVORABLE EFFICACY/ SIDE-EFFECT RATIO	Brilaroxazine shows significant wide-spectrum durable efficacy across primary and secondary endpoints, with a differentiated side effect profile and low discontinuation rate vs. historical data reported for standard of care antipsychotics
POTENTIAL TO SIGNIFICANTLY ADDRESS UNMET NEEDS	Brilaroxazine has the potential to address unmet needs during acute and chronic phases of schizophrenia.

Brilaroxazine Phase 3 Study (RECOVER) Safety, Tolerability and Compliance

Dr. Larry Ereshefsky, PharmD, BCPP, FCCP
Retired Professor of Psychiatry, Pharmacology and Psychiatry, The University of Texas

Chief Scientific Officer, Owner
Follow the Molecule LLC

Reflecting on the Past to Guide the Future

The need: better efficacy with fewer side effects

KEY UNMET NEEDS

Current standard of care antipsychotics are sub-optimal to treat chronic conditions negative, mood and cognitive symptoms

Poor tolerability and prevalence of long-lasting side effects

Recovery or Remission are a rarity

Relapse prevention is less than 50% by the second year

Polypharmacy and high incidences of drug-drug interactions

Poor quality of life

High treatment discontinuation rate

Major Symptoms

Positive symptoms	Negative symptoms	Mood Symptoms
Cognition Impairment	Impaired function	Immune Dysfunction

Major Side Effects of Standard of Care

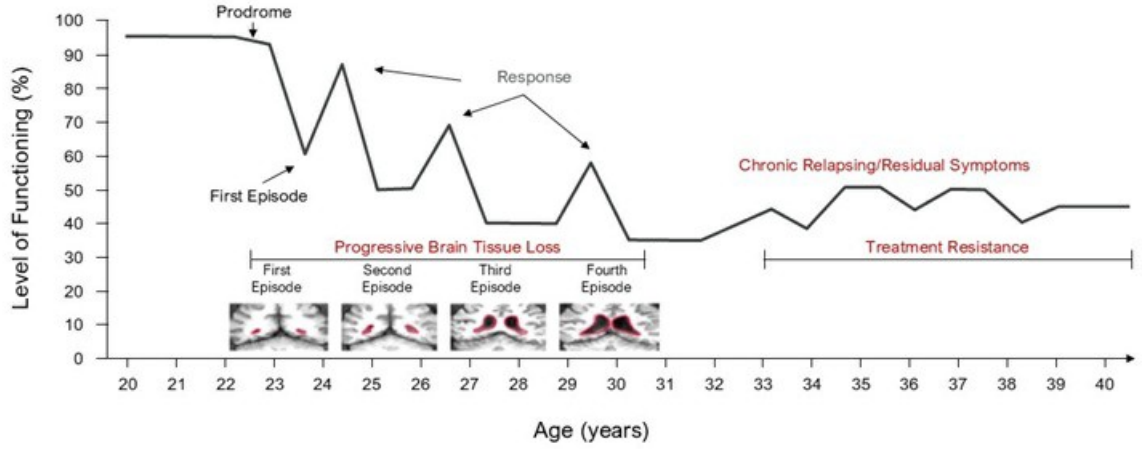
- **Metabolic Side effects** → Weight gain, Diabetes, Dyslipidemia
- **Endocrine Side Effects** → Hormone changes, sexual side effects
- **Neuroleptic Side Effects** → EPS, Akathisia, Tardive Dyskinesia
- **Autonomic Side Effects** → Anticholinergic, Cardiovascular

Emerging role for neuroinflammation: Associated with negative symptoms (anhedonia, apathy) and cognitive impairment and immune dysfunction

Müller N, et al. The role of inflammation in schizophrenia. Front Neurosci. 2015;9(OCT). doi:10.3389/fnins.2015.00372; Goldsmith DR et al. Inflammation and Negative Symptoms of Schizophrenia: Implications for Reward Processing and Motivational Deficits; Front Psychiatry. 2020;11. doi:10.3389/fpsyt.2020.00046; Wang D et al. Differences in inflammatory marker profiles and cognitive functioning between deficit and nondeficit schizophrenia. Front Immunol. 2022;13. doi:10.3389/fimmu.2022.958972

With Every Relapse, In the Early Years of Illness, Patients are at Risk for Increased Brain Atrophy and Lifetime Functional Impairment

Major unmet need to address ☞ Improving treatment adherence and mitigating relapse of acute symptoms



Lin D et al. Front Psych 2021, 12:695672; Alphs L et al. Int Clin Psychopharmacol 2016, 31:202-209; Emsley R et al . BMC Psychiatry 2013, 13:50;

Brilaroxazine Phase 3 RECOVER Trial in Acute Schizophrenia

Safety, Tolerability and Compliance (double-blind trial, 4-week, N=411)

Variables	Brilaroxazine 15 mg (N=140)	Brilaroxazine 50 mg (N=134)	Placebo (N=137)
Any Treatment Emergent Adverse Event (TEAE)	104 (34.5%)	107 (35.5%)	90 (29.9%)
Discontinuation, n (%)	26 (18.6%)	22 (16.4%)	30 (21.9%)
TEAE occurring in >5% participants			
Somnolence	4 (2.9%)	10 (7.5%)	3 (2.2%)
Headache	8 (5.7%)	7 (5.2%)	3 (2.2%)
Metabolic Changes (weight and lipids), TEAE			
Body Weight Change in kg, Mean (SD)	2.20 (3.65)	2.50 (3.50)	0.94 (2.95)
≥7% Increase in Body Weight, n (%)	3 (2.1)	8 (5.9)	4 (2.9)
Cholesterol change in mg/dl, Mean (SD)	-2.4 (27.99)	-4.73 (26.13)	3.65 (28.47)
LDL change in mg/dL, Mean (SD)	-4.38 (22.63)	-5.71 (22.06)	4.07 (24.07)
HDL change in mg/dL, Mean (SD)	1.54 (10.46)	0.48 (13.27)	-2.16 (10.18)
Extrapyramidal Symptoms, TEAE			
Barnes Akathisia Rating Scale Score, Mean (SD)	0.0 (0.13)	0.0 (0.19)	0.1 (0.35)
Abnormal Involuntary Movement Scale Score, Mean (SD)	-0.0 (0.41)	-0.0 (0.28)	0.0 (0.48)
Simpson-Angus Scale Score, Mean (SD)	0.1 (0.42)	0.2 (0.48)	0.3 (0.71)

Brilaroxazine Phase 3 RECOVER Trial in Stable Schizophrenia

Safety, Tolerability and Compliance (open-label trial for 52-week/1-year, N=446)

Variables	Brilaroxazine 15 mg (N=140)	Brilaroxazine 30 mg (N=158)	Brilaroxazine 50 mg (N=148)	Pooled (N=446)
Number of Treatment Emergent Adverse Event (TEAE)	85	91	104	280
Patients with any TEAE, n (%)	50 (35.7%)	49 (31.0%)	67 (45.3%)	106 (37.2%)
Patient with any related TEAE, n (%)	6 (4.3%)	13 (8.2%)	19 (12.8%)	38 (8.5%)
Discontinuation due to TEAE , n (%)	0	3(1.9%)	2 (1.4%)	5 (1.1%)
TEAE occurring in >2% participants				
Headache	1 (0.7%)	7 (4.4%)	4 (2.7%)	12 (2.7%)
Insomnia	3 (2.1%)	5 (3.2%)	10 (6.8%)	18 (4.0%)
Sleep Disturbance	2 (1.4%)	2 (1.3%)	9 (6.1%)	13 (2..9%)
Tremor (mild)	1 (0.7%)	3 (1.9%)	10 (6.8%)	14 (3.1%)
Metabolic Changes (weight and lipids), TEAE				
Body Weight Change in kg, Mean (SD)	1.58 (4.96)	1.85 (2.23)	1.28 (2.95)	1.52 (3.49)
≥7% Increase in Body Weight (AESI), n (%)	3 (2.1%)	2 (1.3%)	6 (4.1%)	11 (2.5%)
Cholesterol change in mg/dL, Mean (SD)	-8.6 (31.01)	-5.5 (23.50)	-10.9 (28.86)	-8.3 (27.82)
LDL change in mg/dL, Mean (SD)	-8.4 (25.52)	-4.5 (22.33)	-11.1 (24.57)	-8.0 (24.19)
HDL change in mg/dL, Mean (SD)	-0.6 (9.34)	-0.9 (8.72)	-0.1 (9.38)	-0.6 (9.12)
Extrapyramidal Symptoms, TEAE				
Barnes Akathisia Rating Scale Score, Mean (SD)	0.0	0.0	0.0	0.0
Abnormal Involuntary Movement Scale Score, Mean (SD)	-0.0 (0.29)	-0.2 (0.59)	-0.0 (0.36)	-0.0 (0.41)
Simpson-Angus Scale Score, Mean (SD)	0.0	0.1 (0.43)	0.0	0.0

Brilaroxazine Phase 3 Trial: Bodyweight Change in Acute vs Stable Patients

Bodyweight change profile in acute in-patient vs stable out-patient trials with brilaroxazine from baseline to EOT

	Acute Patients DB Inpatient Trial	Stable Patients OLE Outpatient Trial	
	4-Week | N=411	24-Week | N=303	52-Week | N=159
Brila-15 mg, mean wt (SD), kg	2.20 (3.65)	0.32 (3.06)	1.56 (5.06)
Brila-30 mg, mean wt (SD, kg	---	0.67 (1.90)	1.88 (2.32)
Brila-50 mg, mean wt (SD), kg	**2.50 (3.50)**	**0.62 (2.69)**	**1.26 (2.99)**
Placebo, mean wt (SD), kg	0.94 (2.95)	---	---

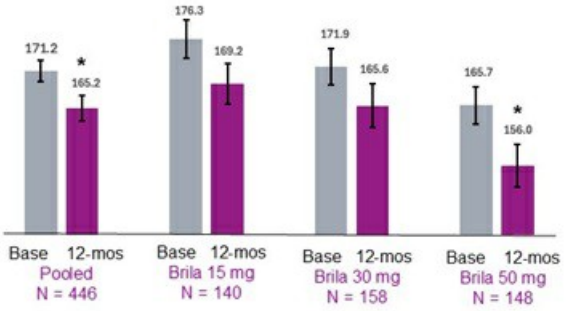
	Bodyweight change in rollover patients, double-blind through OLE treatment over 13 months
Brila-50 mg, mean wt (N=21) Efficacious top dose	1.20 kg

DB = Double-blind; OLE = Open label extension; EOT = End of Treatment

Brilaroxazine Phase 3 OLE Trial: Change in Lipid Profile

Decrease in cholesterol and LDL cholesterol across all doses in brilaroxazine from baseline to EOT (N=446, 12 mos)

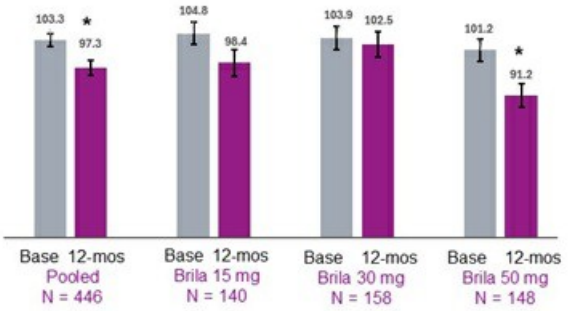
CHANGE IN SERUM CHOLESTEROL (MG/DL)



Decrease in cholesterol across all doses of brilaroxazine from baseline to 12-mos/EOT

- -8.6 mg/dL in 15mg
- -5.5 mg/dL in 30mg
- -10.9 mg/dL in 50 mg, *p=0.040*
- -8.0 mg/dL in overall, *p=0.030*

CHANGE IN SERUM LDL (MG/DL)



Decrease in LDL cholesterol across all doses of brilaroxazine from baseline to 12-mos/EOT

- -8.4 mg/dL in 15mg
- -4.5 mg/dL in 30mg
- -11.1 mg/dL in 50 mg, *p=0.0097*
- -8.0 mg/dL in overall, *p=0.0093*

OLE = Open label extension; EOT = End of Treatment; mos = months

Borba et al. Front Immun 2018, 9:73; Rajkumar, Schizo Res Treatment 2014,: 175360; Gragnoli et al. Transl Psych 2016, 6:e785

Brilaroxazine Phase 3 Trial: Lipids Change in Acute vs Stable Patients

Lipids change in acute in-patient vs stable out-patient trials with brilaroxazine (15, 30, 50 mg) from baseline to EOT

	Cholesterol, mg/dL		LDL Cholesterol, mg/dL	
	Acute Patients (N=411) DB, 1-month	Stable Patients (N=446) OLE, 12 Months	Acute Patients (N=411) DB, 1-month	Stable Patients (N=446), OLE, 12 Months
Brila-15 mg, mean (SD)	– 2.4 (27.99)#	– 8.6 (31.01)	– 4.38 (22.63) #	– 8.4 (25.52)
Brila-30 mg, mean (SD)	---	– 5.5 (23.50)	---	– 4.5 (22.33)
Brila-50 mg, mean (SD)	**– 4.73 (26.13)#**	**– 10.9 (28.86)***	**– 5.71 (22.06) #**	**– 11.1 (24.57)***
Placebo, mean (SD)	3.65 (28.47)	---	4.07 (24.07)	--

#p<0.05 vs placebo (DB) **p<0.05 vs baseline (OLE)*

DB = Double-blind; OLE = Open label extension; EOT = End of Treatment

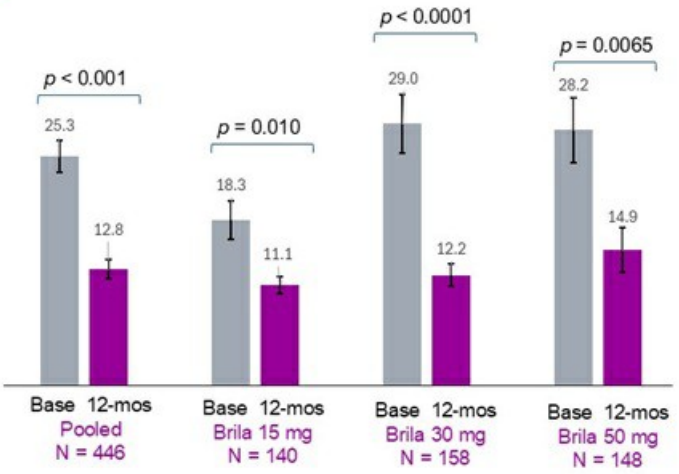
Brilaroxazine Phase 3 OLE Trial: Change in Prolactin Hormone

Clinically significant decrease in prolactin levels across all doses of brilaroxazine from baseline to EOT (N=446, 12 mos)

DECREASE IN PROLACTIN

- Clinically significant decrease in serum prolactin levels across all doses of brilaroxazine from baseline to week-52/EOT
  - -7.14 ug/L in 15mg, (18.26 → 11.12)
  - -16.79 ug/L in 30mg, (28.95 → 12.16)
  - -13.30 ug/L in 50 mg, (28.24 → 14.94)
  - -12.50 ug/L Overall, (25.32 → 12.82)

- Hyperprolactinemia is common condition in patients with schizophrenia / psychiatric disorders
  - Associated with immune diseases (multiple sclerosis, systemic sclerosis etc)
  - Associated with variety of adverse effects: weight gain, type 2 diabetes, breast tenderness and enlargement, sexual dysfunction (lack of libido), and erectile dysfunction in men



OLE = Open label extension; EOT: = End of Treatment

Borba et al. Front Immun 2018, 9:73; Rajkumar, Schizo Res Treatment 2014,; 175360; Gragnoli et al . Transl Psych 2016, 6:e785

Brilaroxazine Phase 3 OLE Trial: Change in Thyroid Hormone

Improvement in thyroid hormone levels across all doses of brilaroxazine from baseline to EOT (N=446, 12 mos)

IMPROVEMENT IN THYROID HORMONES

- Improvement in thyroid (T3) hormone levels across all doses of brilaroxazine from baseline to week-52/EOT
  - 0.033 ug/L in 15mg
  - 0.020 ug/L in 30mg
  - 0.076 ug/L in 50 mg, $P \leq 0.05$
  - 0.044 ug/L in overall, $P \leq 0.05$
- Improvement in thyroid (T4) and decrease in TSH hormone levels across all doses of brilaroxazine

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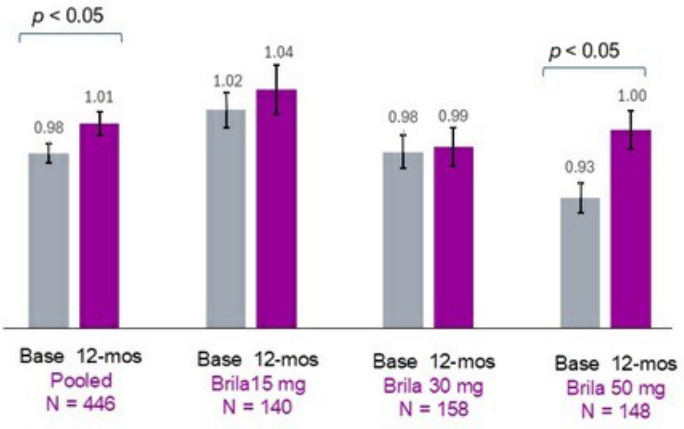
- Hypothyroidism reported in schizophrenia(negative symptom) and mood disorders (bipolar, depression)
- Hypothyroidism implicated in antipsychotic induced metabolic (obesity) and immune disorders
- Thyroid hormones are important for modulation of dopaminergic, serotonergic, glutamateric and GABAergic network.



OLE = Open label extension; EOT: = End of Treatment

Treiber et al. Biol Psych 2025, 138:111338; Misiak et al. Prog Neuropsychopharmacol & biol psych 2021, 111:110402

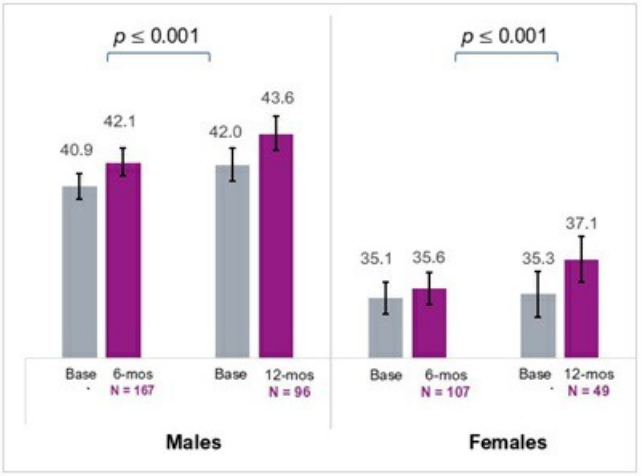
Sexual Function, CSFQ Score: Improvement in both Males and Females

Improvement in sexual function CSFQ Score at 6-mos and 12-mos with brilaroxazine vs baseline ($p \leq 0.001$)

SEXUAL FUNCTION, CSFQ SCORE

- Significant improvement in total sexual function score with brilaroxazine pooled (15, 30, & 50 mg) vs. baseline ($p \leq 0.001$):
  - Males: 1.2 point in male (40.9 → 42.1) at 6M
    1.6 point in male (42.0 → 43.6) at 12M
  - Females: 0.5 point in female (35.1 → 35.6) at 6M
    1.8 point in female (35.3 → 37.1) at 12M

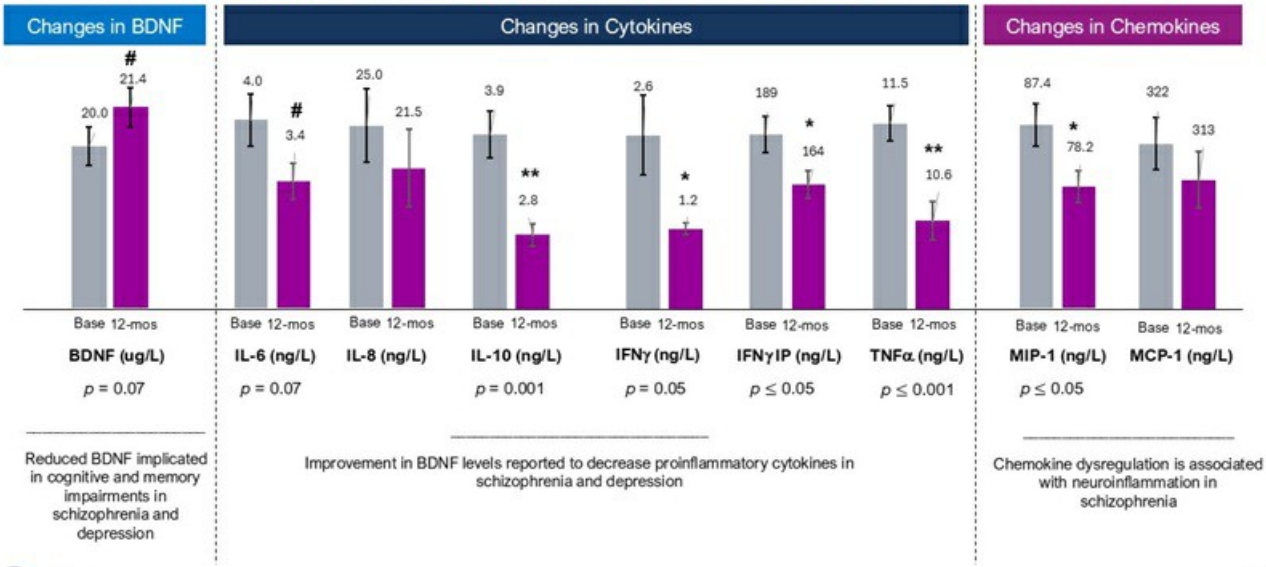
- Prevalence of sexual dysfunction in women 60% and men 55% men with schizophrenia
- Sexual dysfunction linked to negative symptoms, social cognition and social functioning
- Sexual dysfunction impacts quality of life, treatment adherence, and may develop depression and suicidality
- Hyperprolactinemia and hypothyroidism in schizophrenia linked sexual dysfunction



OLE = Open label extension
CSFQ: Change in Sexual Functioning Questionnaire; Anita H et al. Handbook of sexualy-related measures. 2010, page 290; Ednoff AN et al. Psychiatry Intrl 2022, 329-42

Brilaroxazine Phase 3 RECOVER OLE Trial Inflammatory Biomarker Data

Increase in BDNF & decrease in inflammatory cytokines and chemokines from baseline to EOT (N=446, 12 mos)



Reduced BDNF implicated in cognitive and memory impairments in schizophrenia and depression

Improvement in BDNF levels reported to decrease proinflammatory cytokines in schizophrenia and depression

Chemokine dysregulation is associated with neuroinflammation in schizophrenia

Liberona et al Int J Mol Sci 2024, 25:11204; Li et al. Front Psych 2024, 15:1417213; Reale et al. Front Psych 2021, 12:536257; Ermakov et al. Int J Mol Sci 2023, 24(3):2215

Brilaroxazine: Consistent Well-Tolerated Safety with Low Discontinuation Over 1-Year

Well-Tolerated in OLE Trial (N=446, 1-yr treatment)	Brilaroxazine (15, 30, and 50 mg) is safe and well-tolerated following 1-year of treatment. Most common TEAEs ≥ 2% were headache (2.7%), insomnia (4.0%), sleep disturbance (2.9%) and mild tremor (3.1%). No drug related SAEs or major safety concerns reported. 35% total discontinuation rate
No Motor Side Effects	No clinically meaningful changes in movement disorder scales used for evaluating motor side effects such as akathisia and extrapyramidal symptoms
Low Metabolic Side Effects	Mild weight gain (1.52 kg) reported in the pooled brilaroxazine dose group. Weight gain was not dose dependent with least weight gain (1.28 kg) at 50 mg dose. Decrease in lipid levels (cholesterol, LDL cholesterol) and no significant change in blood sugar levels reported
No Endocrine / Sexual Effects	Brilaroxazine is not associated with hormonal imbalance and sexual side effects. Elevated prolactin levels reported at the beginning of the study were significantly reduced to normal or near normal in all three dose groups. Improvement in thyroid hormone levels and sexual function reported
No Cardiac, GI & Liver Side Effects	No incidence of clinically significant cardiac or gastrointestinal side effects No incidence of drug induced liver injury (DILI)

Reviva PHARMACEUTICALS

TEAE: treatment emergent adverse events; SAE: serious adverse events

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- Reviva employees and Consultants
- Drug Monitoring Committee (DMC) Members
- Clinical Research Organizations (CROs)
- Clinical Investigators and site associates

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