Reviva Announces Positive Topline Results from Global Pivotal Phase 3 RECOVER Trial of Brilaroxazine in Schizophrenia

– Successfully met primary endpoint; brilaroxazine 50 mg delivered a statistically significant and clinically meaningful 10.1-point reduction in Positive and Negative Syndrome Scale (PANSS) total score vs. placebo at week 4, p<0.001 –

– Statistically significant and clinically meaningful reductions in all major symptom domains and secondary endpoints at week 4 with 50 mg of brilaroxazine vs. placebo –

– Generally well-tolerated with a side effect profile comparable to placebo for the 15 and 50 mg doses of brilaroxazine; discontinuation rates for brilaroxazine lower than placebo –

– Topline data from 1-year open-label extension (OLE) trial expected Q4 2024 –

– Conference call and webcast today at 8:30 a.m. ET –

CUPERTINO, Calif., Oct. 30, 2023 — 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 positive topline results and successful completion of its pivotal Phase 3 RECOVER trial evaluating the efficacy, safety and tolerability of once-daily brilaroxazine, a serotonin-dopamine signaling modulator in adults with schizophrenia. The trial successfully met its primary endpoint, with brilaroxazine at the 50 mg dose achieving a statistically significant and clinically meaningful 10.1-point reduction in Positive and Negative Syndrome Scale (PANSS) total score compared to placebo (-23.9 brilaroxazine 50 mg vs. -13.8 placebo, p<0.001) at week 4. Brilaroxazine also achieved statistically significant and clinically meaningful reductions in all major symptom domains and secondary endpoints at week 4 with the 50 mg dose vs. placebo. The 15 mg dose of brilaroxazine was numerically superior to placebo on the primary endpoint and most secondary endpoints, and reached statistical significance on two key secondary endpoints.

"We are excited to report positive topline results for our Phase 3 RECOVER trial, further confirming the well-tolerated safety profile and improvements in all major symptom domains including PANSS total score, positive and negative symptoms, and Clinical Global Impression – Severity score (CGI-S) as previously observed in our Phase 2 REFRESH trial," said Laxminarayan Bhat, Ph.D., Founder, President, and CEO of Reviva. "Importantly, we believe the unique multifaceted mechanism of action of brilaroxazine, a serotonin-dopamine signaling modulator, has potential to improve additional key disease drivers like neuroinflammation. The RECOVER pivotal results highlight the potentially differentiated therapeutic profile of once-daily brilaroxazine and underscore the potential to address treatment limitations for the 24 million people living with schizophrenia around the world. We

expect to report long-term data from our OLE trial in the fourth quarter of 2024 and initiate a registrational Phase 3 RECOVER-2 trial in the first quarter of 2024, which if successful will help support our planned New Drug Application (NDA) submission to the FDA expected in 2025."

Key statistically significant and clinically meaningful improvements with brilaroxazine vs. placebo in patients with schizophrenia and a mean PANSS total score of 97-99 at baseline include:

Primary and Secondary Endpoints	Point Reduction/ Improvement for Brilaroxazine 50 mg vs. Placebo at Week 4	Cohen's d Effect Size	P Value
PANSS Total Score	10.1	*0.6*	*< 0.001*
Positive Symptoms	2.8	*0.5*	*< 0.001*
Negative Symptoms (NS)	2.0	*0.4*	*0.003*
NS Marder Factor	2.1	*0.4*	*0.002*
PANSS Social Cognition	1.6	*0.5*	*< 0.001*
PANSS Excitement/Agitation	2.1	*0.5*	*< 0.001*
Personal and Social Performance	6.3	*0.5*	*< 0.001*
CGI-S score	1	*0.5*	*< 0.001*

Larry Ereshefsky, PharmD, BCPP, FCCP, Chief Scientific Officer, Follow the Molecule: CNS Consulting and Clinical Sciences by CenExel Research added, "The consistent response across all primary and secondary endpoints at the 50 mg dose and improvement in all major domains, including, negative symptoms and personal and social performance is strong support for brilaroxazine's robust activity. Moreover, the low placebo response is indicative of a well-run trial employing quality sites and investigators. This broad efficacy profile coupled with low discontinuation rates and favorable tolerability supports the potential of brilaroxazine to address limitations of standards of care and potentially be a long-term treatment option for this chronic and complex disease."

Key clinical safety and tolerability findings of brilaroxazine support a well-tolerated safety profile:

- No drug related serious adverse events (SAEs) or treatment-emergent SAEs (TESAEs) observed or major safety concerns reported for brilaroxazine after 4 weeks of treatment
- No incidence of suicidal ideation
- No significant change in bodyweight, blood glucose levels, lipids levels, or endocrine hormones (prolactin, thyroid hormone) compared to placebo
- Akathisia and extrapyramidal symptoms <1% reported for brilaroxazine 50 mg and none for 15 mg

- Low discontinuation rates with brilaroxazine that were less than placebo (16% in brilaroxazine 50mg and 19% in brilaroxazine 15mg vs. 22% placebo)

The brilaroxazine program consists of the completed positive Phase 2 REFRESH and Phase 3 RECOVER trials, as well as an ongoing 1-year OLE trial evaluating the long-term safety and tolerability, and soon to be initiated confirmatory global, randomized 6-week Phase 3 RECOVER-2 trial. The Company expects to report topline data from the OLE trial in Q4 2024 and initiate the registrational Phase 3 RECOVER-2 trial in Q1 2024, with completion anticipated in early 2025. These data from the brilaroxazine program will potentially support the planned NDA submission to the FDA in 2025.

Conference Call and Webcast Information
Reviva management will hold a conference call and webcast today at 8:30 a.m. ET to discuss topline results from its Phase 3 RECOVER trial evaluating brilaroxazine for adults with schizophrenia.

Dial In: The dial-in number for the conference call is 1-877-704-4453 (U.S./Canada) or 1-201-389-0920 (international).

Conference ID: The conference ID for all callers is 13742204.

Call me™: Click here. Participants can use guest dial-in numbers above and be answered by an operator or they can click the Call me™ link for instant telephone access to the event (dial-out). The Call me™ link will be made active 15 minutes prior to scheduled start time.

Live Webcast: The live webcast can be accessed here. The live webcast and replay may also be accessed by visiting Reviva's website at https://revivapharma.com/events/. An archived version of the webcast will be available on the website for 30 days.

About the Phase 3 RECOVER Trial
RECOVER is a global Phase 3, randomized, double-blind, placebo-controlled, multicenter study designed to assess the safety and efficacy of brilaroxazine in 412 patients with acute schizophrenia compared to placebo. Brilaroxazine was administered at fixed doses of 15 mg or 50 mg once daily for 28 days. The primary endpoint is a decrease in Positive and Negative Symptoms Assessment total score compared to placebo from baseline to Day 28. Key secondary endpoints include clinical global impression (CGI) severity, positive and negative symptoms, social functioning and cognition.

About Brilaroxazine
Brilaroxazine is an in-house discovered new chemical entity with potent affinity and selectivity against key serotonin and dopamine receptors implicated in schizophrenia and its comorbid symptoms. Positive data from a clinical drug-drug interaction (DDI) study investigating the potential effect of CYP3A4 enzyme on brilaroxazine in healthy subjects

supports no clinically significant interaction when combined with a CYP3A4 inhibitor. 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 U.S. 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 pharmaceutical 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, inflammatory and cardiometabolic diseases. Reviva's pipeline currently includes two drug candidates, RP5063 (brilaroxazine) and RP1208. Both are new chemical entities discovered in-house. Reviva has been granted composition of matter patents for both RP5063 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 1-year open label extension (OLE) trial evaluating the long-term safety and tolerability, confirmatory global, randomized 6-week Phase RECOVER-2 trial, 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, market opportunity, ability to raise sufficient funding, competitive position, possible or assumed future results of operations, business strategies, potential 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, 2022, 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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