PolyPid Announces Positive Recommendation by DSMB to Continue Enrollment of Phase 3 SHIELD II Trial of D-PLEX to 800 Patients with a Concurrent Private Placement of up to $41 Million

630 Patients Enrolled To Date; Enrollment Completion Now Expected in Q1 2025 with Top-line Results Anticipated in Q2 2025;

Upon Potential Positive Phase 3 Data the Company Expects to Submit a New Drug Application ("NDA") for D-PLEX$_{100}$ under Fast Track and Breakthrough Therapy Designations, Previously Granted to D-PLEX$_{100}$ by the FDA;

Proceeds from this Financing and Exercise of Data-Triggered Warrant Expected to Extend Cash Runway Beyond Potential NDA Approval

PETACH TIKVA, Israel, Dec. 24, 2024 — PolyPid Ltd. (Nasdaq: PYPD) ("PolyPid" or the "Company"), a late-stage biopharma company aiming to improve surgical outcomes, announced today that following the independent Data Safety Monitoring Board's ("DSMB") review of unblinded efficacy data from the first 430 enrolled patients in the SHIELD II Phase 3 trial for D-PLEX$_{100}$ for the prevention of surgical site infections ("SSIs") in patients undergoing abdominal colorectal surgery with large incisions, the DSMB's recommendation was to conclude the study upon enrollment of 800 patients, which is the lowest sample size reassessment stop after the minimum planned number of 624 patients. At this interim analysis, the DSMB also had the option to recommend stopping SHIELD II due to futility or overwhelming efficacy or to reassess the trial's sample size to a maximum of 1,100 patients. In addition, the DSMB's confirmed the good safety profile of D-PLEX$_{100}$ in SHIELD II to date.

"We view the DSMB's recommendation to conclude SHIELD II upon the enrollment of 800 patients as a favorable outcome, as it is suggestive of positive efficacy signals from D-PLEX$_{100}$," said Dikla Czaczkes Akselbrad, PolyPid's Chief Executive Officer. "The sample size reassessment is an opportunity to ensure the study has sufficient power to conclusively confirm D-PLEX$_{100}$'s treatment benefit, and we believe this increases the trial's overall probability of success. We are now focused on completing the trial, while advancing our planned NDA and Marketing Authorization Application ("MAA") submissions, preparing pre-launch activities, and expediting partnership discussions in and outside of the United States."

The study has enrolled 630 patients to date and enrollment of the last 170 patients is expected to occur in the first quarter of 2025. The Company anticipates reporting top-line results in the second quarter of 2025. Upon potential positive Phase 3 data, the Company expects to submit an NDA with the advantages of *the* Fast Track and Breakthrough Therapy designations, which were granted to D-PLEX$_{100}$ in 2020.

PolyPid also announced that it has entered into a securities purchase agreement for a private placement financing (the “PIPE”) led by existing institutional shareholders for $14.5 million in gross proceeds priced at $3.22 per share, the closing price on December 20, 2024. In connection with the PIPE financing, the Company has agreed to consider Yitzchak Jacobovitz, CFA, partner and lead healthcare analyst at AIGH Capital Management, for appointment to the Company’s board of directors.

Under the securities purchase agreement, the investors have agreed to purchase 4,493,830 of the Company’s ordinary shares, no par value per share (the “Ordinary Shares”), or pre-funded warrants in lieu thereof, at a purchase price of $3.22 per share (or pre-funded warrant). The investors will also receive warrants to purchase up to 6,740,745 Ordinary Shares at an exercise price of $4.00 per share. The warrants expire upon the earlier of nine months from the date of issuance and 10 trading days following PolyPid’s announcement of top-line results from its SHIELD II Phase 3 trial. Exercise of the warrants in full would result in an additional $27.0 million in gross proceeds to the Company.

The PIPE is expected to close on December 26, 2024, subject to the satisfaction of customary closing conditions. The Company intends to use the net proceeds from the sale of the securities for its ongoing SHIELD II Phase 3 clinical trial, working capital and general corporate purposes. The gross proceeds from the financing extend PolyPid’s cash runway into the third quarter of 2025, beyond expected top-line results from SHIELD II.

Proceeds of all warrants issued in this transaction, if exercised, would provide the Company with capital beyond NDA approval.

Citizens JMP is acting as exclusive placement agent in the offering.

The offer and sale of the foregoing securities are being made in a transaction not involving a public offering and the securities have not been registered under the Securities Act of 1933, as amended (the “Securities Act”), or applicable state securities laws. Accordingly, the securities may not be reoffered or resold in the United States except pursuant to an effective registration statement or an applicable exemption from the registration requirements of the Securities Act and such applicable state securities laws. Pursuant to a registration rights agreement with the PIPE investors, the Company has agreed to file within 30 calendar days of closing one or more registration statements with the Securities and Exchange Commission (the “SEC”) covering the resale of the Ordinary Shares and Ordinary Shares issuable upon exercise of the warrants and pre-funded warrants.

This press release does not constitute an offer to sell or the solicitation of an offer to buy the securities, nor shall there be any sale of the securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to the registration or qualification under the securities laws of such state or jurisdiction.

About SHIELD II

SHIELD II (Surgical site Hospital acquired Infection prEvention with Local D-PLEX) is a prospective, multinational, randomized, double blind Phase 3 trial designed to assess the efficacy and safety of D-PLEX$_{100}$ administered concomitantly with standard of care ("SoC"), which includes prophylactic systemic antibiotics, compared to SoC alone arm, in the prevention of post abdominal-surgery incisional infection in patients undergoing abdominal colorectal surgeries with large incisions. The primary endpoint of the trial is measured by the proportion of subjects with either a surgical site infection ("SSI") event as determined by a blinded and independent adjudication committee, reintervention, or mortality for any reason within 30 days post-surgery. Patient safety will be monitored for an additional 30 days. The trial enrolls patients in centers in the United States, Europe and Israel.

About D-PLEX$_{100}$

D-PLEX$_{100,}$ PolyPid's lead product candidate, is designed to provide local prolonged and controlled anti-bacterial activity directly at the surgical site to prevent SSIs. Following the administration of D-PLEX$_{100}$ into the surgical site, the PLEX (Polymer-Lipid Encapsulation matriX) technology pairs with Active Pharmaceutical Ingredients, enabling a prolonged and continuous release of the broad-spectrum antibiotic doxycycline, resulting in a high local concentration of the drug for a period of 30 days for the prevention of SSIs, with additional potential to prevent SSIs caused by antibiotic-resistant bacteria at the surgical site. D-PLEX$_{100}$ received Breakthrough Therapy designation from the U.S. Food and Drug Administration for the prevention of SSIs in patients undergoing elective colorectal surgery. D-PLEX$_{100}$ is currently in Phase 3 SHIELD II trial for the prevention of surgical site infections in patients undergoing abdominal colorectal surgery with large incisions.

About PolyPid

PolyPid Ltd. (Nasdaq: PYPD) is a late-stage biopharma company aiming to improve surgical outcomes. Through locally administered, controlled, prolonged-release therapeutics, PolyPid's proprietary PLEX (Polymer-Lipid Encapsulation matriX) technology pairs with Active Pharmaceutical Ingredients (APIs), enabling precise delivery of drugs at optimal release rates over durations ranging from several days to months. PolyPid's lead product candidate D-PLEX$_{100}$ is in Phase 3 clinical trial for the prevention of abdominal colorectal surgical site infections. In addition, the Company is currently in preclinical stages to test the efficacy of OncoPLEX for the treatment of solid tumors, beginning with glioblastoma. For additional Company information, please visit http://www.polypid.com and follow us on Twitter and LinkedIn.

Forward-looking Statements

This press release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act and other securities laws. Words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," "estimates" and similar expressions or

variations of such words are intended to identify forward-looking statements. For example, the Company is using forward-looking statements when it discusses the expected timing for completion of enrollment of the SHIELD II trial, expected timing for top-line results from the SHIELD II trial, potential NDA and MAA submissions, potential clinical benefits of D-PLEX$_{100}$, including safety and efficacy, pre-launch activities and partnership discussions, the gross proceeds to be received from the PIPE, intended use of proceeds from the PIPE, the anticipated closing date for the PIPE, the anticipated gross proceeds from the exercise of warrants issued in the PIPE if such warrants are exercised in full, that the gross proceeds from the financing extend the Company's cash runway into the third quarter of 2025, that proceeds of all warrants issued in this transaction, if exercised, would provide the Company with capital beyond NDA approval, and the potential addition of Mr. Jacobovitz to the Company's board of directors. Forward-looking statements are not historical facts, and are based upon management's current expectations, beliefs and projections, many of which, by their nature, are inherently uncertain. Such expectations, beliefs and projections are expressed in good faith. However, there can be no assurance that management's expectations, beliefs and projections will be achieved, and actual results may differ materially from what is expressed in or indicated by the forward-looking statements. Forward-looking statements are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in the forward-looking statements. For a more detailed description of the risks and uncertainties affecting the Company, reference is made to the Company's reports filed from time to time with the Securities and Exchange Commission, including, but not limited to, the risks detailed in the Company's Annual Report on Form 20-F filed on March 6, 2024. Forward-looking statements speak only as of the date the statements are made. The Company assumes no obligation to update forward-looking statements to reflect actual results, subsequent events or circumstances, changes in assumptions or changes in other factors affecting forward-looking information except to the extent required by applicable securities laws. If the Company does update one or more forward-looking statements, no inference should be drawn that the Company will make additional updates with respect thereto or with respect to other forward-looking statements.

References and links to websites have been provided as a convenience, and the information contained on such websites is not incorporated by reference into this press release. PolyPid is not responsible for the contents of third-party websites.

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