POLYPID

OPTIMIZED THERAPEUTICS

Q3 2022 INVESTOR CALL

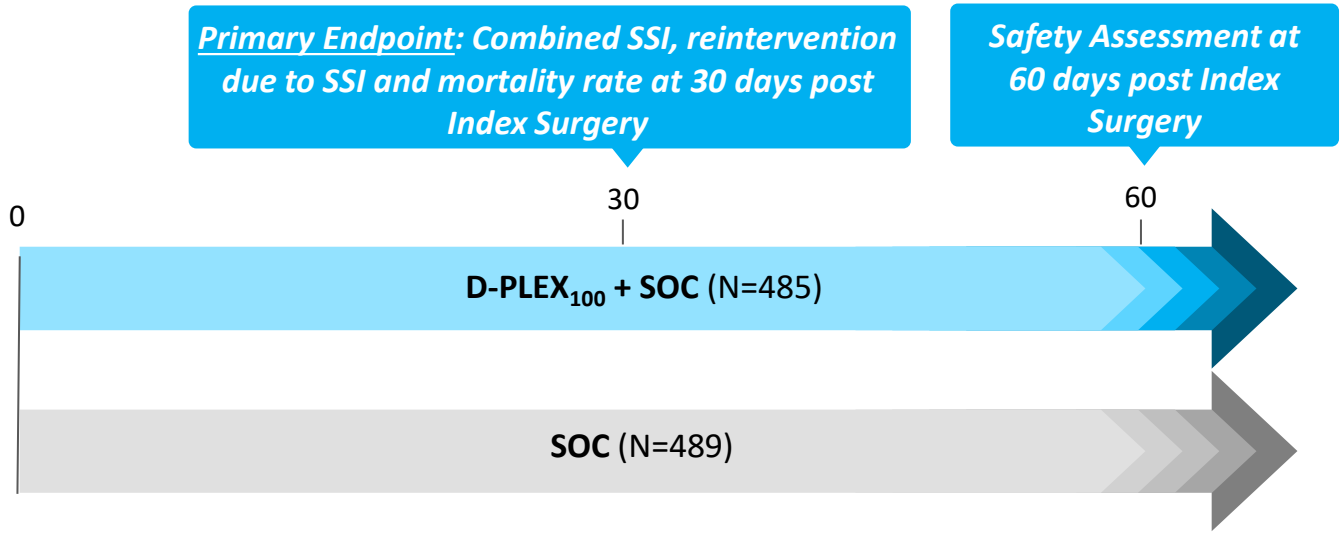
Forward looking statement

This presentation of PolyPid Ltd. (the "Company") 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 statements relating to our objectives, plans, and strategies, the expected timing of trials, the research, development, and use of our platform technologies, technologies, products and product candidates, and all statements (other than statements of historical facts) that address activities, events, or developments that the Company intends, expects, projects, believes, or anticipates will or may occur in the future, Company's intention to meet with U.S. and EU regulatory authorities to discuss data of SHIELD I Phase 3 study and regulatory pathway for D-PLEX$_{100}$ in first quarter of 2023. 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 ("SEC"), including, but not limited to, the risks detailed in the Company's Annual Report on Form 20-F, filed with the SEC on February 28, 2022. 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

SHIELD-I study is the largest study of infection prevention in colorectal surgery in over a decade

Assess efficacy and safety of D-PLEX$_{100}$ for prevention of deep and superficial incisional SSI after elective abdominal colon surgery

(prospective, multicenter, randomized, controlled, two arm, double-blind study)

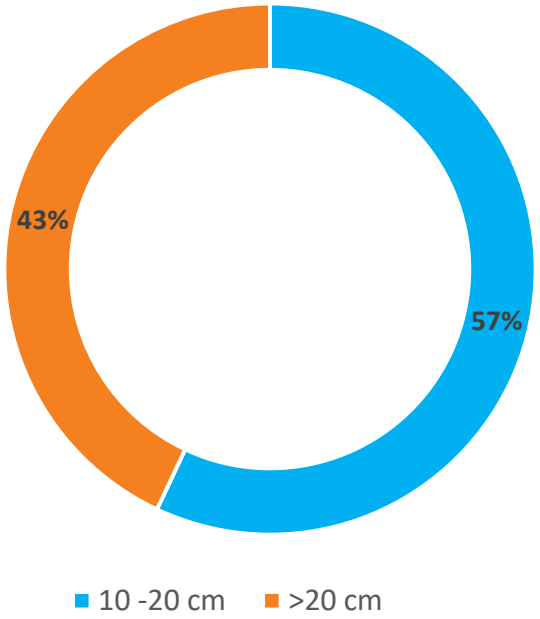


- Open colorectal resection
- 60 centers in US, EU and Israel
- N=977 1:1 Randomization

Study population

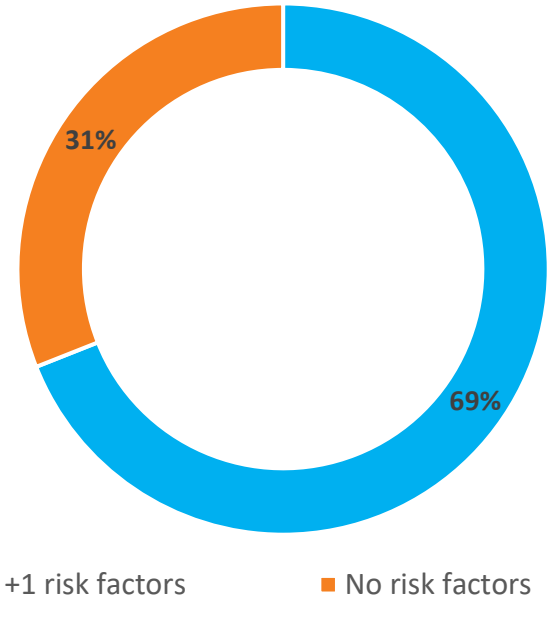
43% of the patients were in the complex surgeries with large incisions (>20 cm) pre-specified subgroup

Prespecified subgroup analysis by incision length (%)



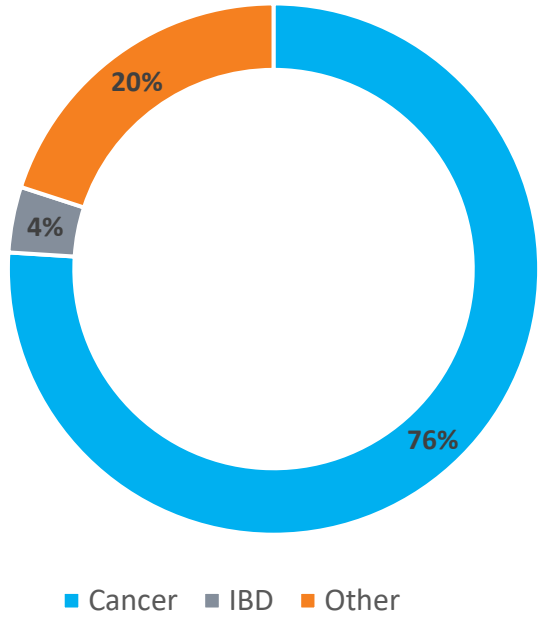
Close to 70% of patients had at least 1 patient-related risk factors for SSI*

Post-hoc analysis by number of risk factors (%)



Over 75% of patients enrolled in the trial were cancer patients

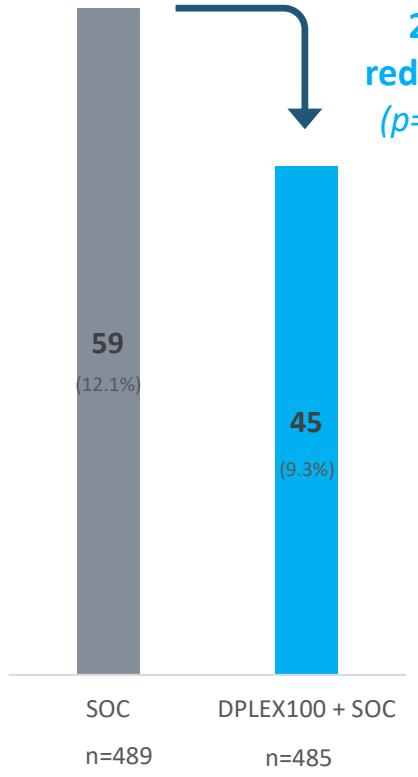
Indication for Index Surgery (%)



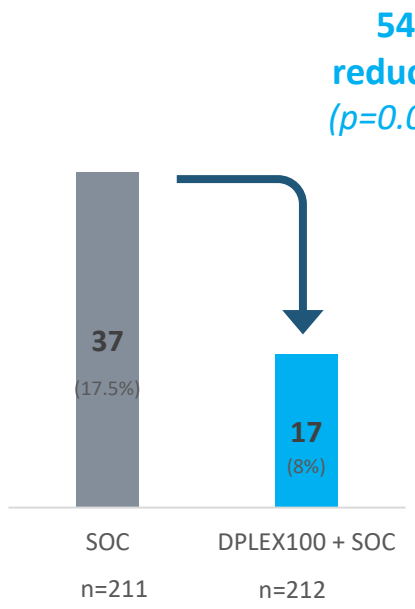
** Post-hoc analysis; patient related risk factors include BMI >30, smoking/COPD, diabetes, hypertension*

Topline and subgroup analysis

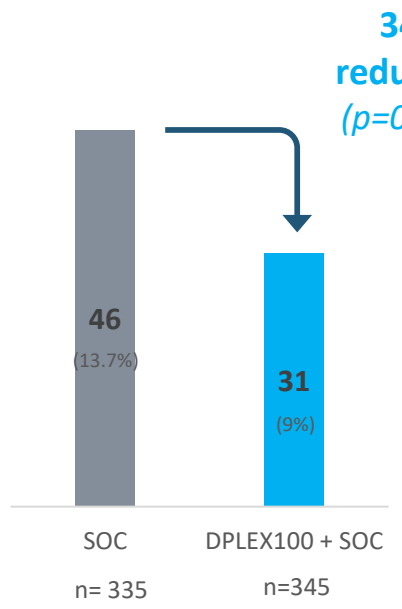
All cohort - primary endpoint not met
(primary endpoint, ITT)



Large incisions complex surgeries subgroup
(primary endpoint, incisions >20cm)



Patient-related risk factors*
(primary endpoint, pts with +1 risk factors)



** Post-hoc analysis; patient related risk factors include BMI >30, smoking/COPD, diabetes, hypertension*

Deep dive into the large-incision subgroup

Parameter	D-PLEX (N=212)	Control (N=211)	Effect
Primary endpoint	17 (8%)	37 (17.5%)	54%
Key Secondary Efficacy Endpoints			
Infection rate during 30 days post abdominal surgery	9 (4.4%)	19 (9.7%)	55%
Number of subjects with at least 1 score of ASEPSIS >20	2 (1.0%)	5 (2.6%)	62%
Additional Efficacy Endpoints			
Incidence of SSSI rate during 30 days post surgery	9 (4.4%)	17 (8.7%)	49%
Incidence of DSSI rate during 30 days post surgery	0	2 (1.0%)	100%
Mortality rate within 30 days post abdominal surgery	6 (2.8%)	10 (4.7%)	40%
Time to adjudicated SSI during 30 days post index surgery (days)	8.0 (4, 28)	5.0 (1, 13)	NA
Number of subjects treated with IV Antibiotic as treatment for adjudicated SSI	1 (11.1%)	9 (47.4%)	77%
Number of subject with any surgical re-interventions	9 (4.4%)	19 (9.7%)	55%

SHIELD I study demonstrated good safety profile for D-PLEX$_{100}$

	D-PLEX + SOC n=478 (%)	SOC n=498 (%)
Death	16 (3.3%)	17 (3.4%)
Subjects with at least 1 TEAE	381 (79.7%)	398 (79.9%)
Subjects with at least 1 severe TEAE	58 (12.1%)	81 (16.3%)
Subjects with at least 1 serious TEAE	69 (14.4)	98 (19.7)
Subject with any TEAE where action taken is surgical re-intervention	26 (5.4%)	45 (9%)

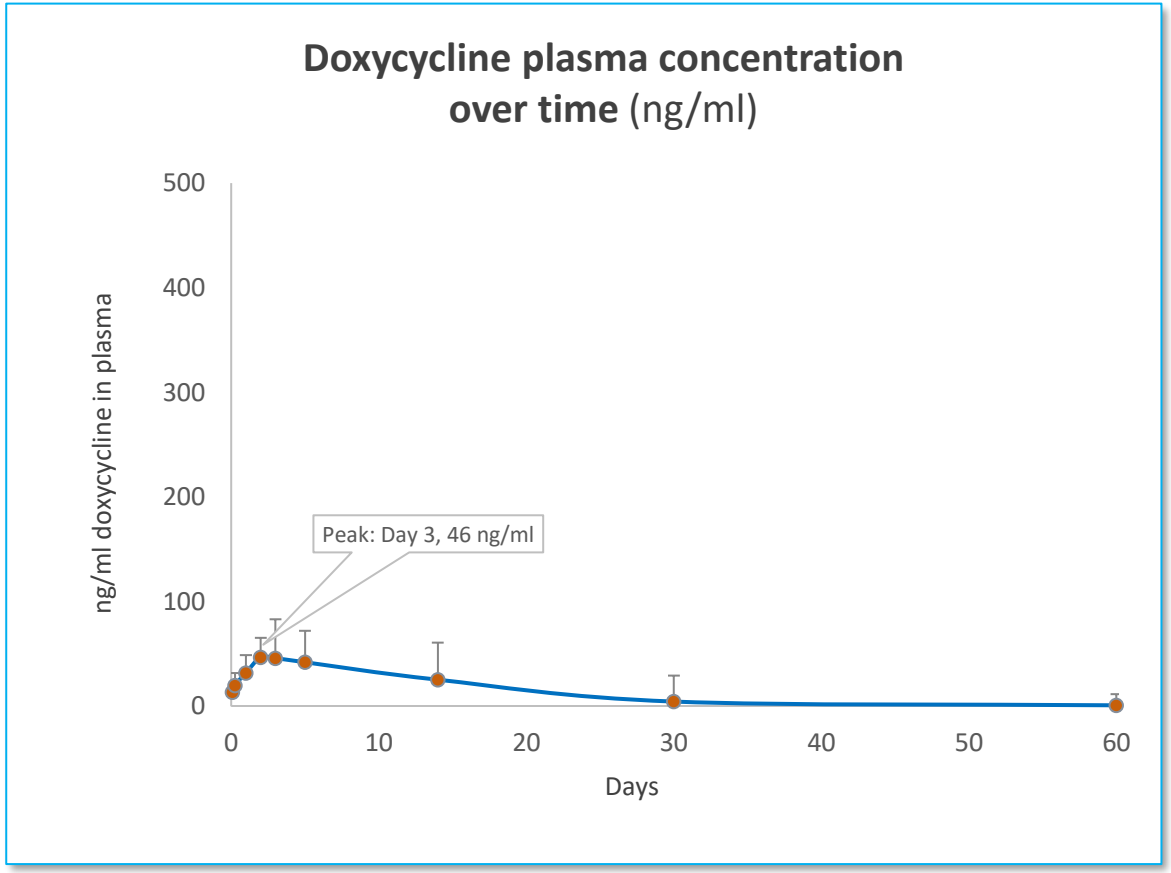
- TEAEs in the D-PLEX$_{100}$ arm are similar or better than SOC
- No impact on mortality in the D-PLEX$_{100}$ arm compared to SOC
- 40% reduction in surgical re-intervention

TEAE - Treatment Emergent Adverse Event

Large scale validation of the PLEX platform

PLEX platform performed as expected:

- Customized release rate - 30-day release of doxycycline
- High local concentration
- Minimal systemic exposure



Key takeaways and next steps

- **Significant reduction in SSIs in large incisions complex surgeries** and in high-risk patients
- **Good safety profile**
- Preparing D-PLEX$_{100}$ **data package for the FDA**
- Regulatory preparations with our European partner, **Advanz Pharma**, ongoing
- Remain **engaged in partnering discussions** in multiple additional geographies
- Intend to **meet with U.S. and EU regulatory authorities** to discuss data from SHIELD I Phase 3 study and regulatory pathway for D-PLEX$_{100}$ in **first quarter of 2023**