LabTIE Dispensers in Published Research

Reference Document

Version 22.001

LabTIE Seed, Bead and Powder Dispensers are single-object mesh-plate dispensing tools used by research laboratories, universities and pharmaceutical and biochemical institutes worldwide for high-throughput sample preparation. This reference document collects the peer-reviewed publications, protocols and preprints identified in independent literature that describe the use of LabTIE Dispensers in published scientific research, organized by product line: the LabTIE Seed Dispenser, the LabTIE Bead Dispenser and the LabTIE Powder Dispenser.

Each section below gives a short summary of how that dispenser has been used in the literature, followed by the identified publications with links to the original source. A consolidated reference list appears on the final page.

LabTIE Seed Dispenser

The LabTIE Seed Dispenser is the strongest-published solution in the LabTIE range for high-throughput seed phenotyping in microplate formats. The clearest evidence comes from a recurring herbicidal-discovery workflow in which the dispenser is used to deliver 10–15 teff seeds per well into 96-well microtitre plates containing agar and test compounds, enabling rapid, standardised germination readouts across many conditions. This exact format has been reported repeatedly in peer-reviewed natural-products papers, including Lacey et al. (2019), Li et al. (2021) and Lacey et al. (2023).

Official LabTIE documentation describes the Seed Dispenser as compatible with 0.2–9.0 mm seeds, multiple grid formats from 24 to 384, and a wide range of containers including plates, tubes, petri dishes and trays. The published record shows that researchers value it most where repeatable, plate-based seed loading matters: miniaturised germination assays, screening campaigns, and workflows where manual loading would otherwise become the bottleneck.

Identified publications

Lacey HJ et al. Nanangenines: drimane sesquiterpenoids as the dominant metabolite cohort of a novel Australian fungus, Aspergillus nanangensis. Beilstein J Org Chem. 2019;15:2631–2643. View publication

Lacey HJ et al. Conglobatins B–E: cytotoxic analogues of the C2-symmetric macrodiolide conglobatin. J Antibiot. 2020;73:756–765. View publication

Li H et al. Hancockiamides: phenylpropanoid piperazines from Aspergillus hancockii are biosynthesised by a versatile dual single-module NRPS pathway. Org Biomol Chem. 2021;19:587–595. View publication

Roux I et al. Characterisation and heterologous biosynthesis of burnettiene A, a new polyene-decalin polyketide from Aspergillus burnettii. Org Biomol Chem. 2021;19:9506–9513. View publication

Lacey H et al. Yeppoonic acids A–D: 1,2,4-trisubstituted arene carboxylic acid co-metabolites of conglobatin from an Australian Streptomyces sp. J Antibiot. 2022;75:108–112. View publication

Li H et al. Discovery of brevijanazines from Aspergillus brevijanus reveals the molecular basis for p-nitrobenzoic acid in fungi. Chem Commun. 2022;58:6296–6299. View publication

Lacey HJ et al. Resorculins: hybrid polyketide macrolides from Streptomyces sp. MST-91080. Org Biomol Chem. 2023;21:2531–2538. View publication

Chen R et al. Turonicin A, an antifungal linear polyene polyketide from an Australian Streptomyces sp. J Nat Prod. 2023. View publication

Arishi AA et al. Metabologenomic profiling of an endemic Australian fungal strain. Aust J Chem, 2026. View publication

LabTIE Bead Dispenser

The LabTIE Bead Dispenser has the broadest publication footprint in the LabTIE portfolio and is the most clearly validated for high-throughput sample preparation. Across peer-reviewed papers and protocols, it has been used to load grinding and lysis beads into 96-well plates, deep-well plates and matrix tubes for workflows spanning DNA extraction, microbiome sample processing, RRBS DNA methylation library preparation, plant genotyping, fungal DNA isolation, proteomics interactome mapping, and membrane-interface amyloid-β screening.

Published methods report successful loading of 0.5 mm glass beads, 2.8 mm ceramic beads, 3 mm tungsten beads, mixed 0.1/0.5/1 mm zirconia-silica bead sets, and larger acid-washed bead preparations, making the LabTIE Bead Dispenser a published workflow accelerator for high-throughput lysis and homogenisation with adoption in genomics, epigenomics, proteomics and microbiome research.

Identified publications

Cox SJ et al. High-Throughput Screening at the Membrane Interface Reveals Inhibitors of Amyloid-β. Biochemistry. 2020;59(24):2249–2258. View publication

Michaelis AC et al. The social and structural architecture of the yeast protein interactome. Nature. 2023;624:192–200. View publication

Nair VD et al. Protocol for high-throughput DNA methylation profiling in rat tissues using automated reduced representation bisulfite sequencing. STAR Protocols. 2024;5(2):103007. View publication

Brennan C et al. Clearing the plate: a strategic approach to mitigate well-to-well contamination in large-scale microbiome studies. mSystems. 2024;9(10):e00985-24. View publication

Boucher St-Amour V-T et al. High-Throughput DNA Extraction Using Robotic Automation (RoboCTAB) for Large-Scale Genotyping. Plants. 2025;14(15):2263. View publication

Reyes Márquez FC et al. High-Throughput Culture and DNA Isolation Methods for Aspergillus fumigatus. Current Protocols. 2025;5(4):e70112. View publication

Brennan C et al. Streamlined extraction of nucleic acids and metabolites from low- and high-biomass samples using isopropanol and matrix tubes. Microbiology Spectrum. 2025. View publication

Bolaño-Losada C et al. Effect of hydrogen peroxide and carbon-to-nitrogen ratio on growth and biochemical profile in oleaginous mucoromycota. Microbial Cell Factories. 2025;24:232. View publication

LabTIE Powder Dispenser

The LabTIE Powder Dispenser is designed for laboratories that need to transfer powders or very fine particulate material into microplate and vial formats quickly and reproducibly, without manual weighing at every position. It supports a working range of roughly 1–1000 µL per well and multiple grid formats from 24 to 384, for use with plates, tubes and vials.

The independent literature base for the Powder Dispenser is currently narrower than for the Seed and Bead lines, but it is meaningful: in a peer-reviewed high-throughput DNA extraction workflow for mycobacteria and other difficult cells, Epperson and Strong (2020) explicitly report use of a 96-well powder dispenser tailored by LabTIE, removing a laborious manual loading step from a real production method.

Identified publications

Epperson LE, Strong M. A scalable, efficient, and safe method to prepare high quality DNA from mycobacteria and other challenging cells. J Clin Tuberc Other Mycobact Dis. 2020;19:100150. View publication

Contact

This reference list is maintained by LabTIE International B.V. and updated as new peer-reviewed publications are identified. For questions about a specific dispenser, a custom mesh plate, or to report a publication that should be added to this list, please visit our contact page or email info@labtie.com.

Consolidated Reference List

LabTIE Seed Dispenser

Lacey HJ et al. Beilstein J Org Chem. 2019;15:2631–2643. https://www.beilstein-journals.org/bjoc/articles/15/256/downloads

Lacey HJ et al. J Antibiot. 2020;73:756–765. https://pubmed.ncbi.nlm.nih.gov/32555501/

Li H et al. Org Biomol Chem. 2021;19:587–595. https://pubs.rsc.org/en/content/articlelanding/2021/ob/d0ob02243h

Roux I et al. Org Biomol Chem. 2021;19:9506–9513. https://pubs.rsc.org/en/content/articlehtml/2021/ob/d1ob01766g

Lacey H et al. J Antibiot. 2022;75:108–112. https://pubmed.ncbi.nlm.nih.gov/34880415/

Li H et al. Chem Commun. 2022;58:6296–6299. https://pubs.rsc.org/en/content/articlelanding/2022/cc/d2cc01679f

Lacey HJ et al. Org Biomol Chem. 2023;21:2531–2538. https://pubs.rsc.org/en/content/articlelanding/2023/ob/d2ob02332f

Chen R et al. J Nat Prod. 2023. https://pubs.acs.org/doi/10.1021/acs.jnatprod.3c00144

Arishi AA et al. Aust J Chem, 2026. https://www.tandfonline.com/doi/full/10.1080/21501203.2026.2613528

LabTIE Bead Dispenser

Cox SJ et al. Biochemistry. 2020;59(24):2249–2258. https://pubmed.ncbi.nlm.nih.gov/32469202/

Michaelis AC et al. Nature. 2023;624:192–200. https://www.nature.com/articles/s41586-023-06739-5

Nair VD et al. STAR Protocols. 2024;5(2):103007. https://www.sciencedirect.com/science/article/pii/S2666166724001722

Brennan C et al. mSystems. 2024;9(10):e00985-24. https://pubmed.ncbi.nlm.nih.gov/39283083/

Boucher St-Amour V-T et al. Plants. 2025;14(15):2263. https://www.mdpi.com/2223-7747/14/15/2263

Reyes Márquez FC et al. Current Protocols. 2025;5(4):e70112. https://pubmed.ncbi.nlm.nih.gov/40172288/

Brennan C et al. Microbiology Spectrum. 2025. https://pubmed.ncbi.nlm.nih.gov/41070991/

Bolaño-Losada C et al. Microbial Cell Factories. 2025;24:232. https://link.springer.com/article/10.1186/s12934-025-02863-1

LabTIE Powder Dispenser

Epperson LE, Strong M. J Clin Tuberc Other Mycobact Dis. 2020;19:100150. https://pmc.ncbi.nlm.nih.gov/articles/PMC7052505/

This list reflects publications identified through independent literature review as of 2026 and is not exhaustive. LabTIE International B.V. does not author or endorse the conclusions of third-party publications; links are provided for reference convenience only.