

Individually configurable well-plate for your interaction studies



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Challenge: Although studies investigating polymicrobial interactions have surged in recent years, no high-throughput device is currently available for this purpose.

Solution: We designed a well-plate that can be configured with a wide array of semi-permeable membranes to interconnect multiple wells as desired. This allows the cultivation of several bacterial species in spatial separation while enabling interactions through diffusible compounds. The well-plate is in standardized dimension which allows it to be used with multimode plate readers.

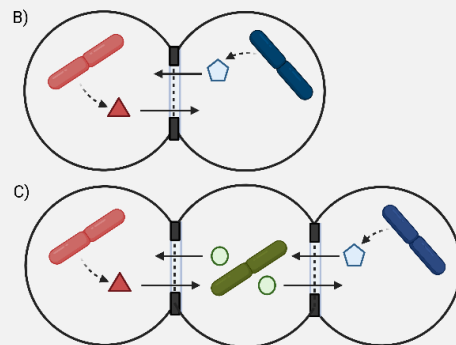
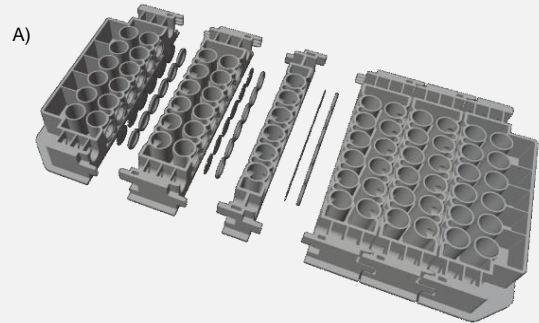


Figure 1: Schematic overview of the modular device.
A) Plate design illustrating the modular system of the plate.
B) + C) Sketches showing the functionality of the device.
The wells are separated by a membrane, allowing the diffusion of compounds while keeping the bacteria apart.

Invention Well plate in standardized dimensions (e.g. 96-well).
Fits standard hardware such as multimode plate readers.
Customers can select and combine his/her own well plate by choosing modules and membranes.

Use A set of wells is connected by a channel and a permeable membrane. The setup allows for chemical sensing, signalling, and the exchange of metabolites between two or more wells without any direct physical contact. This allows to study complex interactions between multiple pathogens and host factors.
Enabled for robot/automated systems to investigate large numbers of combinations in high-throughput settings.

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Video <https://youtu.be/agPwL3G0w7k>

Patent Utility patent filed



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