Agar height sensor and the right pin optimize colony transfer efficiency

Repetitive failure of a colony transfer can result in project delays, wasted biomaterials, or the loss of valuable clones. To ensure optimal colony transfer for a diverse range of microorganisms, Molecular Devices offers a unique portfolio of picking pins that come in a variety of shapes, sizes, and textures. Moreover, a proprietary agar height sensor automatically determines the optimal picking height on-the-fly, thus enabling optimal transfer and outgrowth of biological materials. Together, proper pin selection and the agar height sensor enhance microbial colony transfer efficiency by as much as 40% as shown in the example dataset in Figure 1.

Pin features

- Range of organism-specific pins
- Extends 8 proprietary spreading pins simultaneously
- Five pin shapes for picking loaded into fully automated pneumatic, 96-pin picking head
- Customer-interchangeable heads for other applications
- Automatically sterilized between runs and reusable
- Proper pin selection and agar height sensor enhance microbial colony transfer efficiency

Figure 1: Colony transfer efficiencies can vary widely according to the pairings between microorganisms and colony-picking pins. A representative dataset is shown for E.coli, Saccaromyces coevisoe, and S. venezuelae.
Pick colonies with a typical efficiency of >98%

Sensors detect agar height, helping high-precision robotics pick single colonies gently.

Organism-specific pin heads are tailor-made to ensure maximum transfer of material.

Proven pin sterilization process is suitable for any organism.

Barcode reader tracks sample plates, wells and picked clones for perfect record keeping.

Reutilize picking pins with the built-in washing bath

Many colony pickers rely on either pipette tips or a feed of polymer reels to pick microbial communities. Not only does the QPix 400 series employ a range of different pins, but the built-in washing system means these pins can be indefinitely reused.

The three-bath system, typically filled with bleach, sterile water and ethanol, also includes a halogen lamp. This system ensures the pins are washed, disinfected, dried and ready to reuse in a matter of minutes.

Programming flexibility also allows complete customization of the washing technique to suit individual research needs.