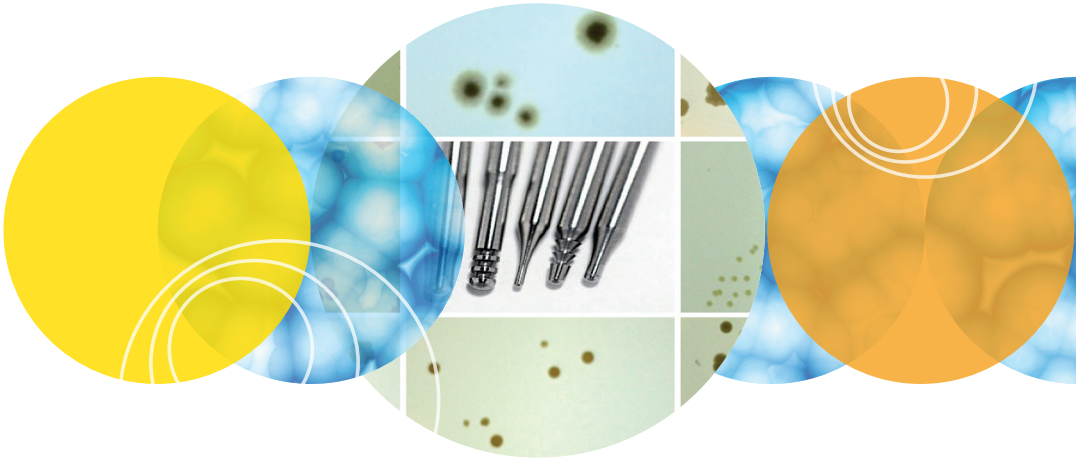

# Not just *E. coli* — Efficient, automated microbial colony transfer for a wide variety of microorganisms

QPix 400 Series organism-specific picking pins and detection software

## KEY FEATURES

- **Specialized pin designs enable maximal transfer of diverse microorganisms**
- **Ultrasonic agar height sensor automatically determines optimal pin picking height to ensure maximum picking efficiency**
- **Robust and flexible colony detection algorithms readily identify a variety of biological organisms**

## Flexible hardware and software enable detection and selection of diverse biology

The value of an automated colony picking solution extends far beyond *E. coli* research applications. The QPix™ 400 Series of automated microbial colony pickers by Molecular Devices is designed to meet research needs across a diverse range of microbial workflows. Powerful and versatile colony detection algorithms combined with specialized pins are specifically tailored to pick, plate, and replicate bacteria, fungi, algae, phage, and yeast cells.

## 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, 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 agar height sensor enhance microbial colony transfer efficiency, by as much as 40% as shown in an example dataset (Figure 1).

MOLECULAR DEVICES

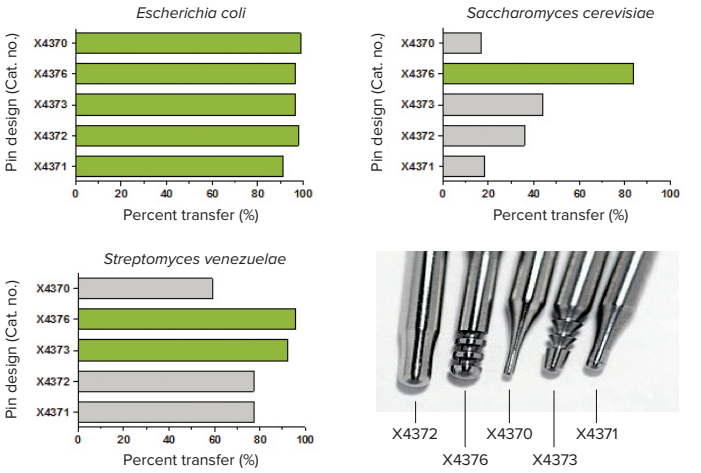


**Figure 1. Colony transfer efficiencies can vary widely according to the pairings between microorganisms and colony-picking pins.** A representative dataset is shown for *Escherichia coli*, *Saccharomyces cerevisiae*, and *Streptomyces venezuelae*.

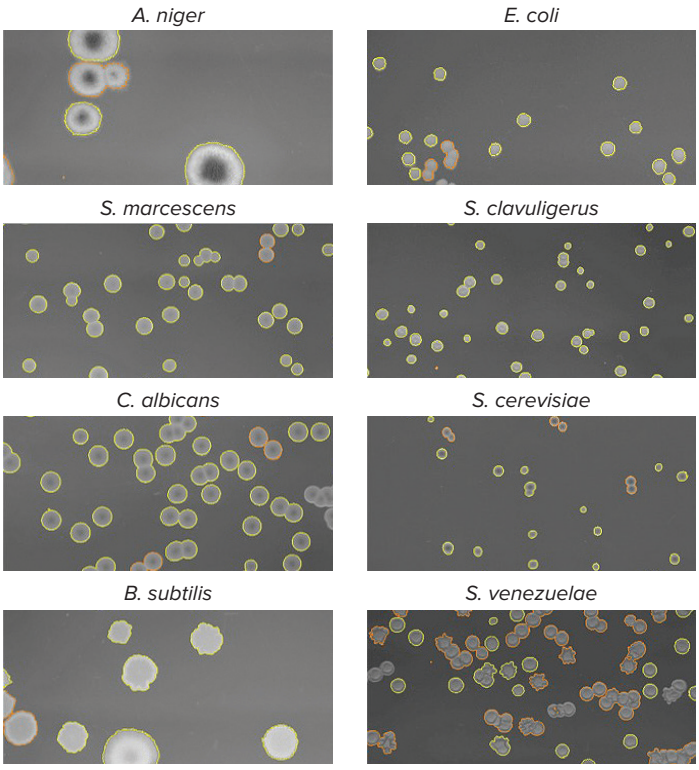


**Figure 2. Morphologically distinct colonies are identified by QPix colony detection algorithms based on user-defined parameters: compactness, axis ratio, size, and proximity.** Colonies surrounded by yellow border are selected for picking based on the user criteria, while colonies bordered with red fail to meet user-defined criteria and are excluded from picking.

## Powerful colony detection algorithms handle microorganism diversity with ease

A colony detection algorithm optimized for *E. coli* may not work optimally when applied to yeast, algae, or other microorganisms that produce colonies with different phenotypic attributes. The QPix Software offers experimental flexibility by automatically identifying and selecting colonies produced from a wide range of microorganisms (Figure 2). Furthermore, ease-of-use of the software allows users to custom define parameters such as shape, size and proximity to neighboring objects for efficient and tailored selection of any colony forming microorganism.

## Comprehensive automation platform improves workflow efficiency

With a unique portfolio of colony picking pins and an intelligent software package that are suited for a diverse range of microorganisms beyond *E. coli*, the QPix system can project speed and efficiency across a variety of research workflows and host organisms.

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