TECH NOTE

Is there a risk of cross-contamination with EXTRACTMAN®?

During EXTRACTMAN® operation, wells are filled to the point of creating a convex meniscus that extends above the top of the well.

While a filled plate may appear susceptible to spillage, surface tension acts to lock each reagent in place within its designated well.

Additionally, the EXTRACTMAN® plate and bead capture strip each have features that are specifically designed to prevent cross-contamination.

- EXTRACTMAN® plates have been designed with sharp corners at the top of each well, thus maximizing the force required to cause a spill.
- EXTRACTMAN® plates also contain overflow channels surrounding each well, such that any spill will be contained in the immediate vicinity of the well without risk of mixing with an adjacent sample lane.
- EXTRACTMAN® bead capture strip is constructed from polypropylene with a smoothness that further enhances hydrophobicity and prevents the lateral spreading of sample liquid along the length of the strip.
- The EXTRACTMAN® bead capture strip contains physical barriers between each sample lane, eliminating any chance of sample spreading laterally along the strip.

The figure shows the lack of cross-contamination by samples from different organisms (human and corn) into adjacent lanes.

- DNA was simultaneously extracted from both human samples (loaded in Lanes 1 and 3) and corn samples (loaded in Lanes 2 and 4) using EXTRACTMAN®.
- Extracted DNA was quantified using qPCR, which is sensitive enough to detect even a single copy of cross-contaminant DNA.
- However, in all trials and all sample lanes, no cross-contaminant signal was observed, indicating that EXTRACTMAN® is resistant to cross-contamination, even at the molecular level.
- Furthermore, in over 1,000 extractions performed internally and by EXTRACTMAN® beta testers, there has never been any evidence of cross-contamination.

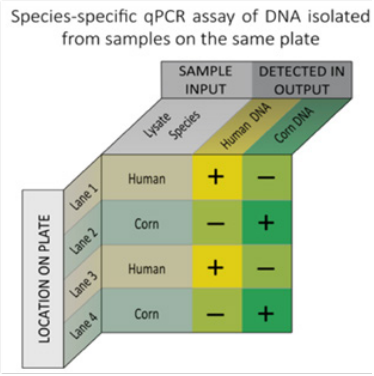

Figure – EXTRACTMAN® was loaded with alternating samples from human and corn lysate (left) and DNA from this extraction was analyzed via qPCR to demonstrate that only DNA from the expected organism was detected in each lane (right).

GILSON®

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