



Stanford eCorner

Disposable vs. Reusable in Biology

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Video URL: <http://ecorner.stanford.edu/videos/877/Disposable-vs-Reusable-in-Biology>

There are no plans at this time to make the rubber chips reusable, says Worthington. Because the chips are so cheap to produce, Fluidigm would have to charge an enormous amount for them in order to make a viable business model where the customers are reusing the product, he adds. There is also the practical consideration of using pristine materials in experiments to ensure against contamination, he notes.



Transcript

Absolutely not. No. There are razor blades and the same economics apply. So yes, it would probably be more, in many respects, aesthetically pleasing if you could run this chip, press a button and it twiddles out all the pollutants and all that kind of stuff and you can reuse it. Unfortunately, a) that's a much more difficult business model to get to work properly because when you're manufacturing this stuff for the first time, it's expensive. It just is. Integrated circuits now, they're whatever, a penny a square millimeter or something like that to get off the line but when they started out, it cost hundreds of dollars to make each one. When we got our start too, it was the same kind of thing, it cost us hundreds of dollars to make each one of these things. So if they were going to be reusable, we need to charge just an obscene amount of money to be able to make the business work. There's a practical limitation as well which is it's just hard to get around.

When you do biology, the whole point is to have a pristine experiment upon whose result you can really rely and if there's any residue of the previous experiment in your new experiment, you have no idea what's going on. Chemistry and biology is so finicky that it's much more valuable to know that when I run this experiment, it's going to be clean and I can rely on the data than to like say well, I'm not so sure. Even the Quake Lab, Steve Quake who's a really productive guy who can drive his grad students, he wouldn't reuse his chips even though I'm sure he could've gotten it if he stayed up all night and clean them off with Freon or something like that. Even he was making sure that they used fresh chips every single time they run experiments.