accurate, low-volume plate setup and DNA quality control for high-throughput NGS workflows

TTP Labtech’s mosquito® and Advanced Analytical’s Fragment Analyzer™ are a powerful combination for high-throughput NGS workflows:

- miniaturized, cost-effective NGS library preparation with the TTP Labtech mosquito liquid handler
- accurate, low-volume plate setup and normalization
- rigorous quantification and quality control at high throughput with the Advanced Analytical Fragment Analyzer

**mosquito HTS**
low-volume liquid handler using positive displacement tip technology

**Fragment Analyzer**
scaleable nucleic acid quantity and quality assessment
workflow published in Cell and Nature Scientific Data

Scientists at Stanford University mapped stem cell differentiation along multiple mesodermal lineages\(^1\), which required preparation of miniaturized RNA-seq libraries from over 600 single cells. TTP Labtech mosquito X1 and HTS liquid handlers were used to prepare input plates for the Advanced Analytical Fragment Analyzer, automating cDNA normalization and generation of low-volume Nextera XT sequencing libraries in 384-well format. By using the Fragment Analyzer, the Stanford team achieved reliable DNA quantification and quality assessment at high throughput\(^2\).

“The TTP Labtech mosquito liquid handlers have reduced hands-on time for normalization and library prep of 384 single-cell samples from two weeks to a single day, while increasing the accuracy and lowering cost at the same time.

Rahul Sinha, Ph.D., Instructor, Institute for Stem Cell Biology and Regenerative Medicine, Stanford University, USA

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“The 96 capillary AATI Fragment Analyzer is a critical instrument in our single-cell sequencing pipeline. Once you quantitate the cDNA (complementary DNA) with capillary electrophoresis, the Nextera libraries are so reproducible\(^3\)...”

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references


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