EVE™ HT FL: A new high-throughput fluorescence cell counter.

NanoEntek

Jiyea Kim, Namhyuk Baek, Chan Park. R&D team, NanoEntek, Seoul, 08389, Korea

Abstracts

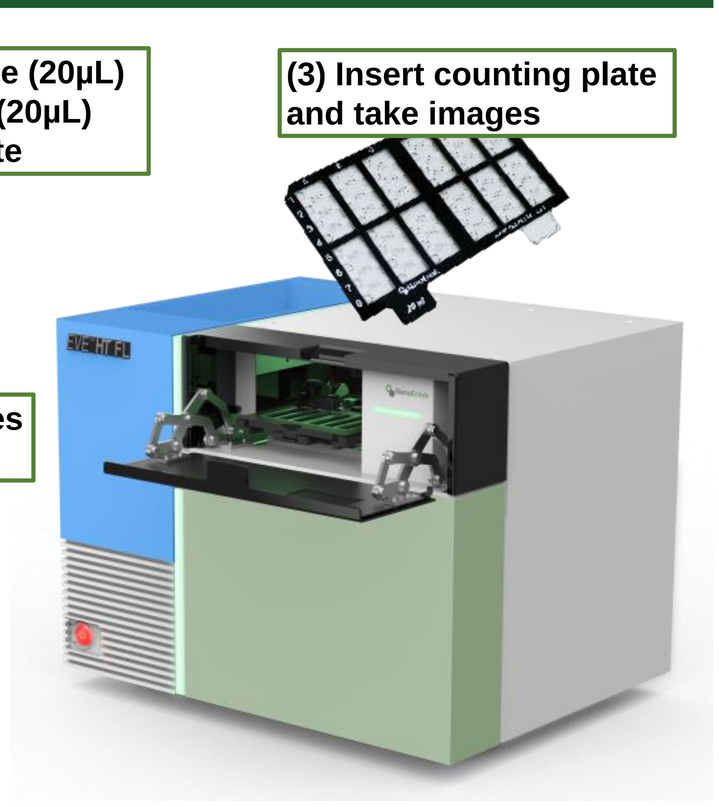
To manage production of several variations and large quantities of cells for biopharmaceutical products, it is highly important to make accurate measurements of cell counts and viabilities. While there are several automated cell counters for small number of samples, quantifying large number of samples simultaneously has been a challenging step. Especially when samples are contaminated with non-cell debris or cell sizes are small such as PBMC (peripheral blood mononuclear cells), traditional bright field imaging can be easily erroneous. To fill the gap, NanoEntek has developed a new high-throughput fluorescence cell counter, EVE™ HT FL. EVE™ HT FL can measure 48 samples at a time and it takes only 3 minutes with a quick mode and about 5 minutes with an accuracy mode. With AO/DAPI dual fluorescence imaging, EVE™ HT FL is free from influences by non-cell debris as well as capable of quantifying small cells. With optional bright field, EVE™ HT FL can also quantify cell size histogram too. We found that the results of EVE™ HT FL are highly comparable with the results of a flow cytometer (BD FACSCalibur) (R2 > 0.98). We also found that repetitive measurements with EVE™ HT FL have very low variations (coefficient of variation < 6%). These data demonstrate that EVE™ HT FL is accurate and precise. We believe that EVE™ HT FL can offer an excellent high-throughput cell counting method for research and development in bioprocessing as well as cell therapies.

Sample Preparation

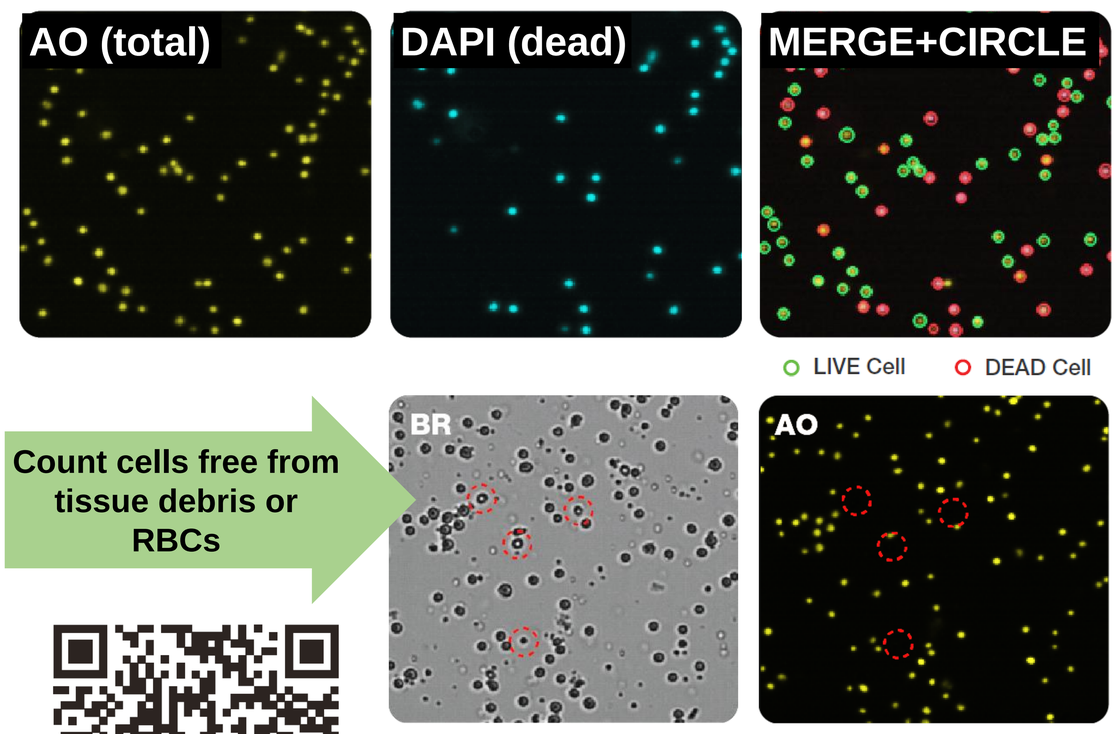
(1) Mix sample (20μL) with reagent (20μL) in mixing plate

(2) Load (20μL) of mixtures in each well (up to 48)

(3) Insert counting plate and take images

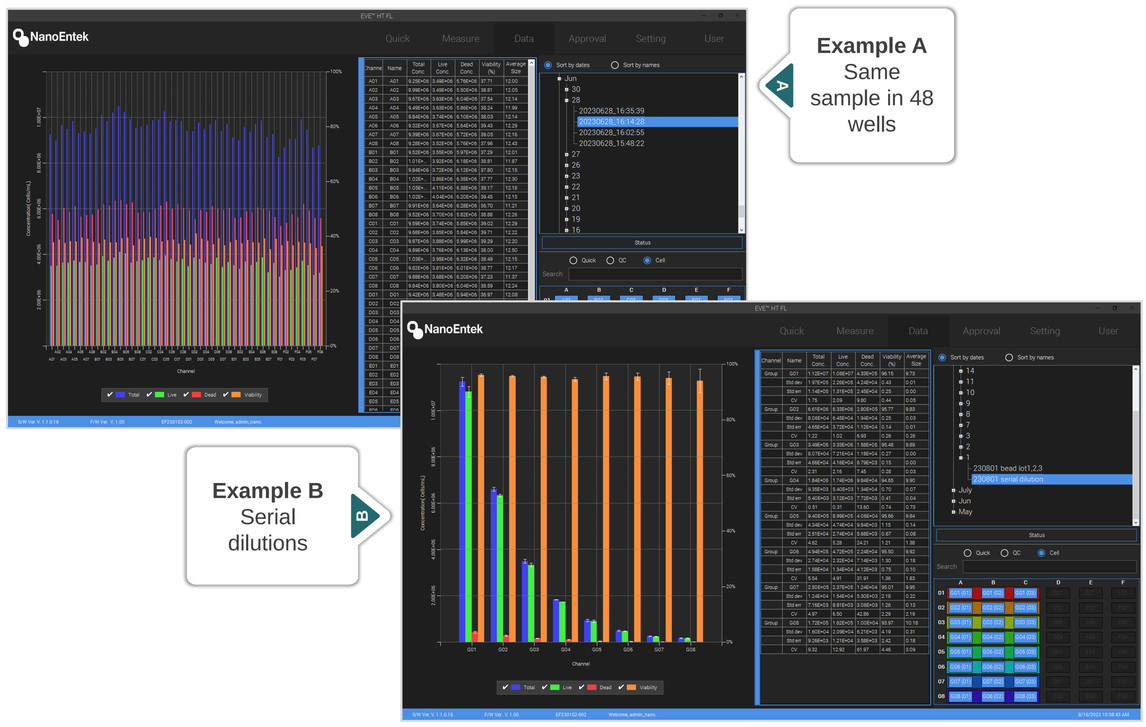


Fluorescence based counting

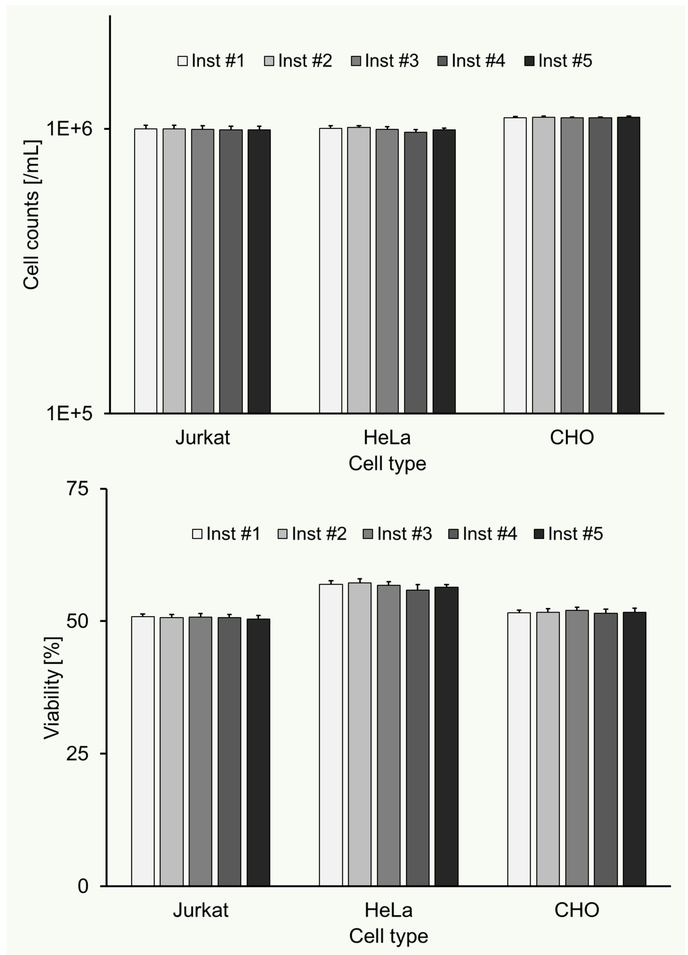


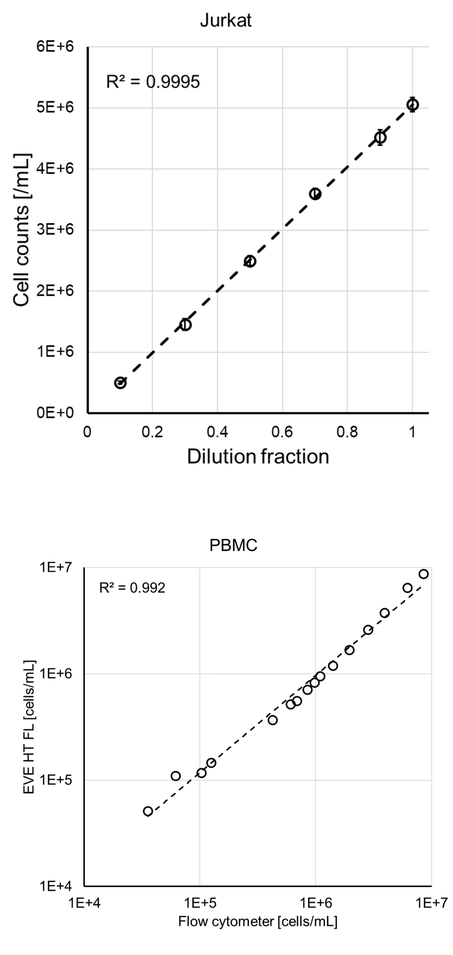
Count cells free from tissue debris or RBCs

Sample Results

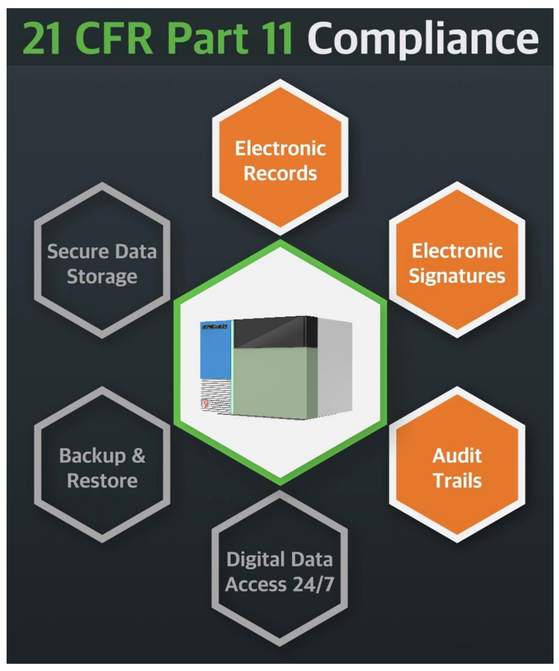


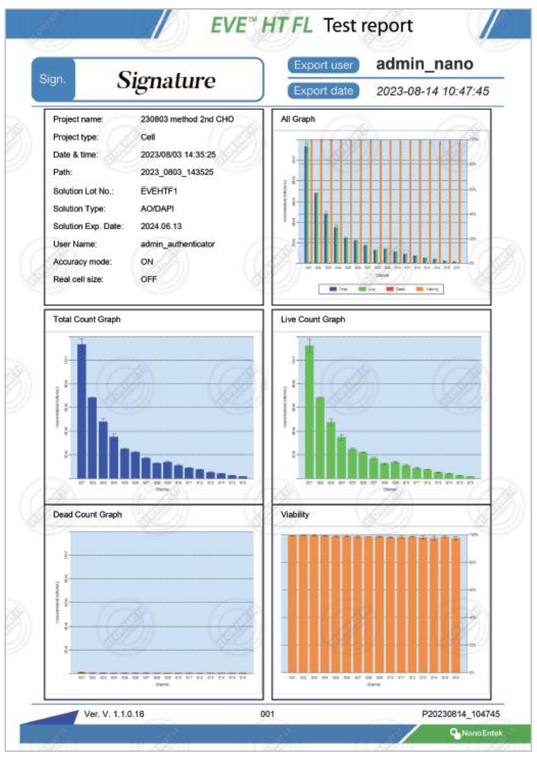
Precise, accurate and consistent





Ready to use in cGMP facilities





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