The fluidigm C1™ system isolates cells by capturing them in small inlets on a microfluidic chip, which then can be viewed using a microscope to confirm the capture of the cell, determine its status as live or dead, or for the presence of a marker, such as an antigen. Several different IFCs are available, typically in three sizes, depending on the size of cell, 5-10µm, 10-17µm and 17-25µm. For each chip, the size range is the optimal, for which capture is most efficient, but cells outside that range can also still be captured. After capture, and visualization, the cells are lysed and further reactions performed in nanoliter volumes, before being harvested in 3.5-5µl. The C1 has several different IFCs

1) C1 preamp IFC – For amplification of specific genes for up to 96 single cells. cDNA is prepared for the pool of genes, from 96-400
2) C1 mRNASEq IFC – Use NEBNext or Takara SmartSeq4 for full transcript of up to 96 single cells
3) C1 mRNASEq HT IFC – For library preparation of up to 800 single cells in 20 pools of 40 cells, each with a unique barcode (5-10µm, 10-17µm only)
4) C1 DNASeq – Whole genome amplification of up to 96 single cells with the GenomiPhi™ V2 DNA Amplification Kit.
5) C1 OpenApp IFC – Amplify RNA or DNA from up to 96 single cells with custom scripts for methodologies that are not suitable for other single cell analysis methods.