**Wafergen Patient-Derived Xenograft Sample => Whole Cells**

**Protocol for Loading Chips**

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1. Thaw single-cell suspension vial with PDX cells in 37C heat bath.
2. Add 4 mL PBS (no Ca2+, no Mg2+).
3. Spun at 100 rcf for 5 minutes.
4. Removed supernatant and added 4 mL PBS (no Ca2+, no Mg2+).
5. Spun at 100 rcf for 5 minutes.
6. Resuspended in 1 mL PBS (no Ca2+, no Mg2+).
7. Filtered through mesh filter.
8. Diluted 10 uL sample with 100 uL PBS (no Ca2+, no Mg2+).
   1. Measured cell count with M-chip.
   2. Calculated volume of cells to add using spreadsheet.
9. Added 1 drop Hoechst and 1 drop Propidium Iodide to cells (note: light-sensitive).
   1. Stained at room temperature for 10-20 minutes.
   2. Spun at 100 rcf for 5 minutes.
   3. Measured cell count again with M-chip.
10. Prepare dilution of stained cells according to spreadsheet.
11. Prepare negative control 1:10 dilutions.
12. Prepare positive control 1:10 dilutions with K562 RNA.
13. Add dilutions to chip according to protocol.
    1. Note chip number.
14. Place chip in dispensing machine for dispensing.
15. Blot lightly to check for excessive liquid droplets.
16. Add imaging film to chip.
17. Centrifuge chip at 300g for 5 minutes.
18. Turn on microscope.
19. Do acquisition of cells.
20. Freeze chip in freezing chambers at -80C.