

LabChip 90 Protein Assay Quick Guide

Protein Express Chip Preparation

1. Allow the chip and reagents to equilibrate to room temperature.
IMPORTANT: The dye must be completely thawed and vortexed before use.
2. Fill the Cleaning Chip with 1.2 ml of Biology grade water, insert into the instrument and incubate for a minimum of 2 minutes. Prior to running the Protein chip, remove the Cleaning Chip and allow the electrodes to air dry for a minimum of 5 minutes.
3. Prepare Gel-Dye by adding 20 μL Protein Express Dye to 520 μL Protein Express Gel Matrix. Vortex and transfer to a spin filter. Prepare Destain solution by adding 250 μL Protein Express Gel Matrix to a spin filter. Centrifuge both solutions at 9300 RCF for 5 minutes.
4. Rinse and aspirate each active well (1, 2, 3, 4, 7, 8, 9 and 10) twice with biology grade water
5. Add Protein Express Reagents to the chip (as shown in Figure 1) using Reverse Pipetting Technique. **Please note new protocol that Gel-Dye is also added to well 3 prior to priming the chip. IMPORTANT: The updated protocol is to be used with HT Labchip SW 2.6.1. LC90 users need to download and install "LabChip HT V2.6.1.210-SP1" first and then "LabChip HT V2.6.1..210 SP1 Assay Addition and Update" for LabChip 90 from the Caliper website.**
NOTE: While updating instrument software please DO NOT uninstall manually previous version of software.
6. Place the chip in the priming station and prime for 10 minutes.
(For automated priming station use setting B7.)
7. Aspirate the contents of Wells 1 and 4 using vacuum.
8. Add Protein Express Marker to Well 4 (as shown in Figure 2) using Revers Pipetting. Add 40 μL Protein Express Marker for 96-well plates or 120 μL Protein Express Marker for 8 hour or multi-plate analysis.
9. Clean both sides of the chip window with the supplied clean room cloth dampened with 70% isopropanol.

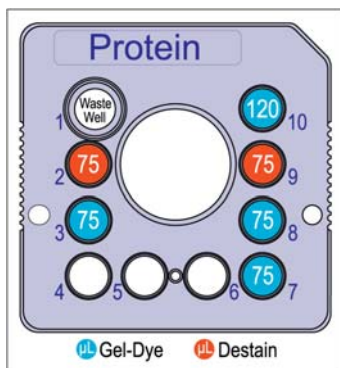


Figure 1

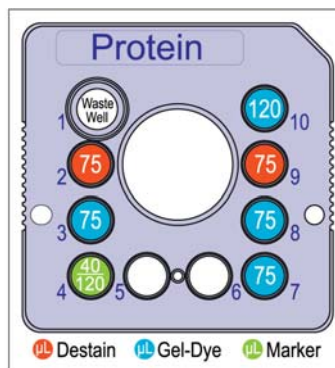


Figure 2

Protein Sample, Ladder, and Buffer Strip Preparation

1. Prepare denaturing solution by adding 24.5 μL BME or 1M DTT to 700 μL Protein Express Sample Buffer.
2. Add 2 μL (or 5 μL for High Sensitivity) protein sample to 7 μL denaturing solution. Samples can be prepared in a microtiter plate or in microcentrifuge tubes.
3. Transfer 15 μL Protein Express Ladder to a microcentrifuge tube. Heat the ladder and samples at 100 $^{\circ}\text{C}$ for 5 minutes.
4. Add 35 μL (or 32 μL for High Sensitivity) water to the samples and 150 μL water to the ladder.
5. Transfer samples (44 μL) to a microtiter plate.
6. Transfer 150 μL prepared ladder to Well A of the ladder strip (as shown in Figure 3).
7. Add 200 μL Protein Express Wash Buffer to each well of the buffer strip (as shown in Figure 4).

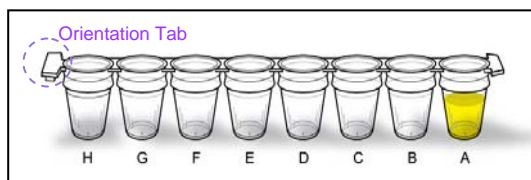


Figure 3

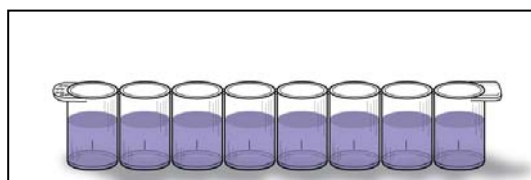


Figure 4

