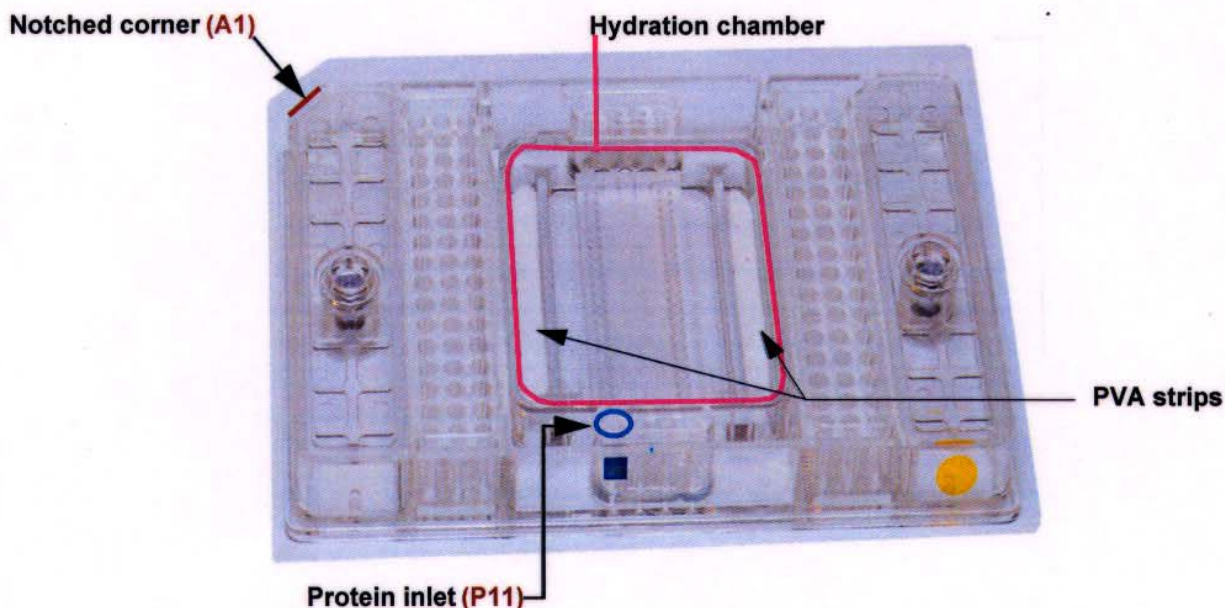


Features of the TOPAZ™ 1.96 Chip



Steps to Setting Up an Experiment on the 1.96 Chip

- 1 Prepare the 1.96 Chip immediately after opening the package.**
 - Prepare a solution of one part Hydration Fluid Concentrate and two parts sterile D.I. water. (With OptiMix™-3 reagents only, use a one-to-one solution of Hydration Fluid Concentrate and water.)
 - Open the hydration chamber lid and pipette 0.75 mL of the solution onto each PVA strip. Be sure that the PVA strips are lying in the outer reservoirs. The strips should *not* touch the microprocessor in the chip center.
 - Firmly and quickly, close the hydration chamber lid to maintain humidity.
- 2 Run the 1 Prep script to fill control channels within 20 hr. of step 1.**
- 3 Pipette reagents and protein within 20 hr. of step 1.**
 - Use a 20 μ L pipettor, multi-channel pipettor, or liquid-dispensing robot to inject 10–15 μ L reagent into each reagent inlet.
 - Use a P10 or gel-loading pipette tip to pipette 1.4–3 μ L protein into the protein inlet.
- 4 Within 5 min. of step 3b, run the 2 Load 1.96 script to pressurize delivery of reagents and protein.**

(Optional) After the script is finished, perform a Tzero (T0) scan **within 60 min.**

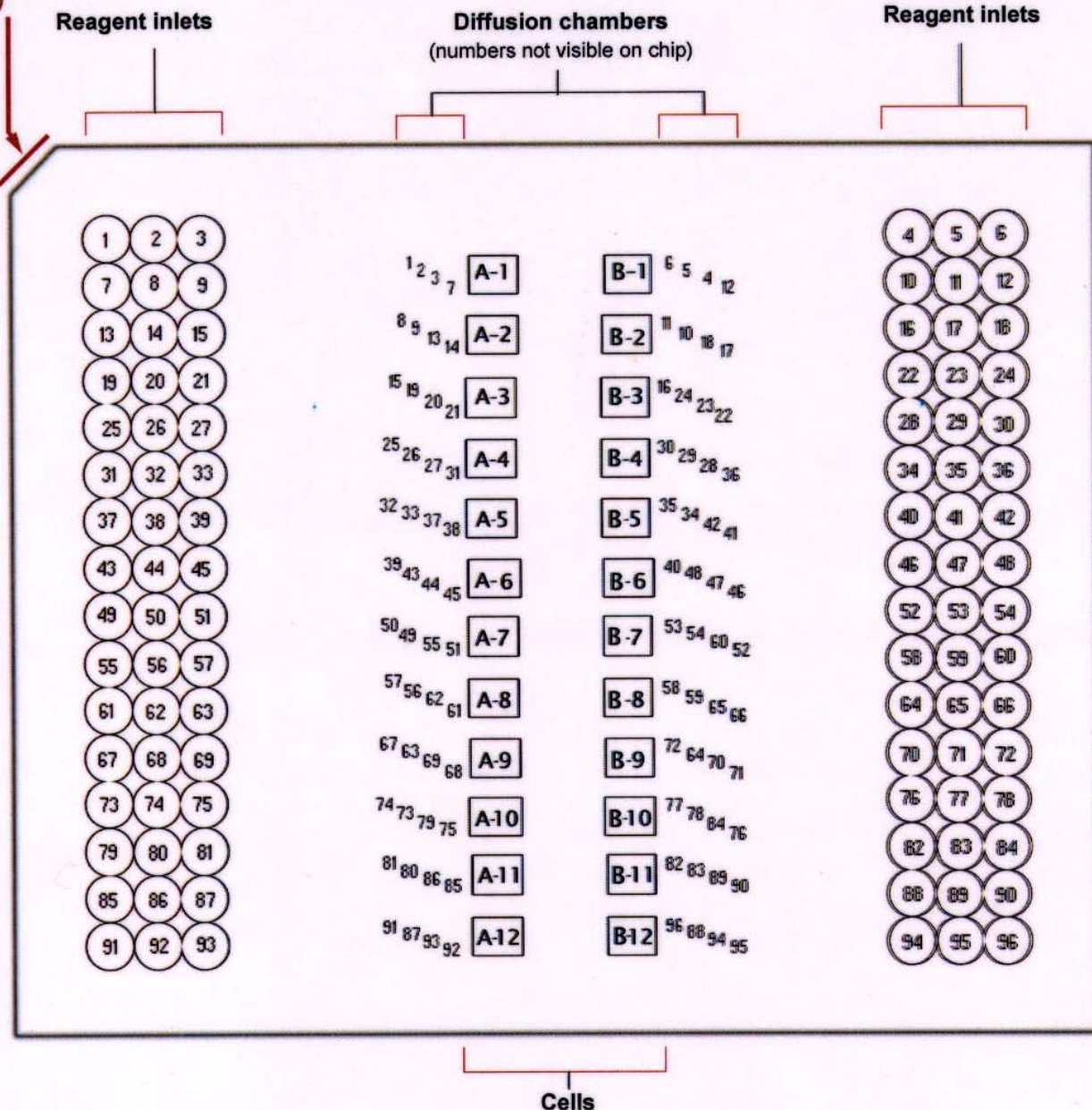
The AutoInspeX Workstation scans the 1.96 Chip in 5 min.
- 5 Initiate diffusion of reagent and protein within 60 min. of T0 scan.**

Run the 3 FID Control RT script to initiate diffusion and then terminate FID after sixty minutes.

As an alternative, run the 3 FID Start script to open interface valves. After sixty minutes, run 4 Recharge to close them again.
- 6 Recharge the chip within 7 days.**

Numbers for Reagent Inlets and Corresponding Diffusion Chambers on the 1.96 Chip (Not to scale.)

Notched corner
(A1)



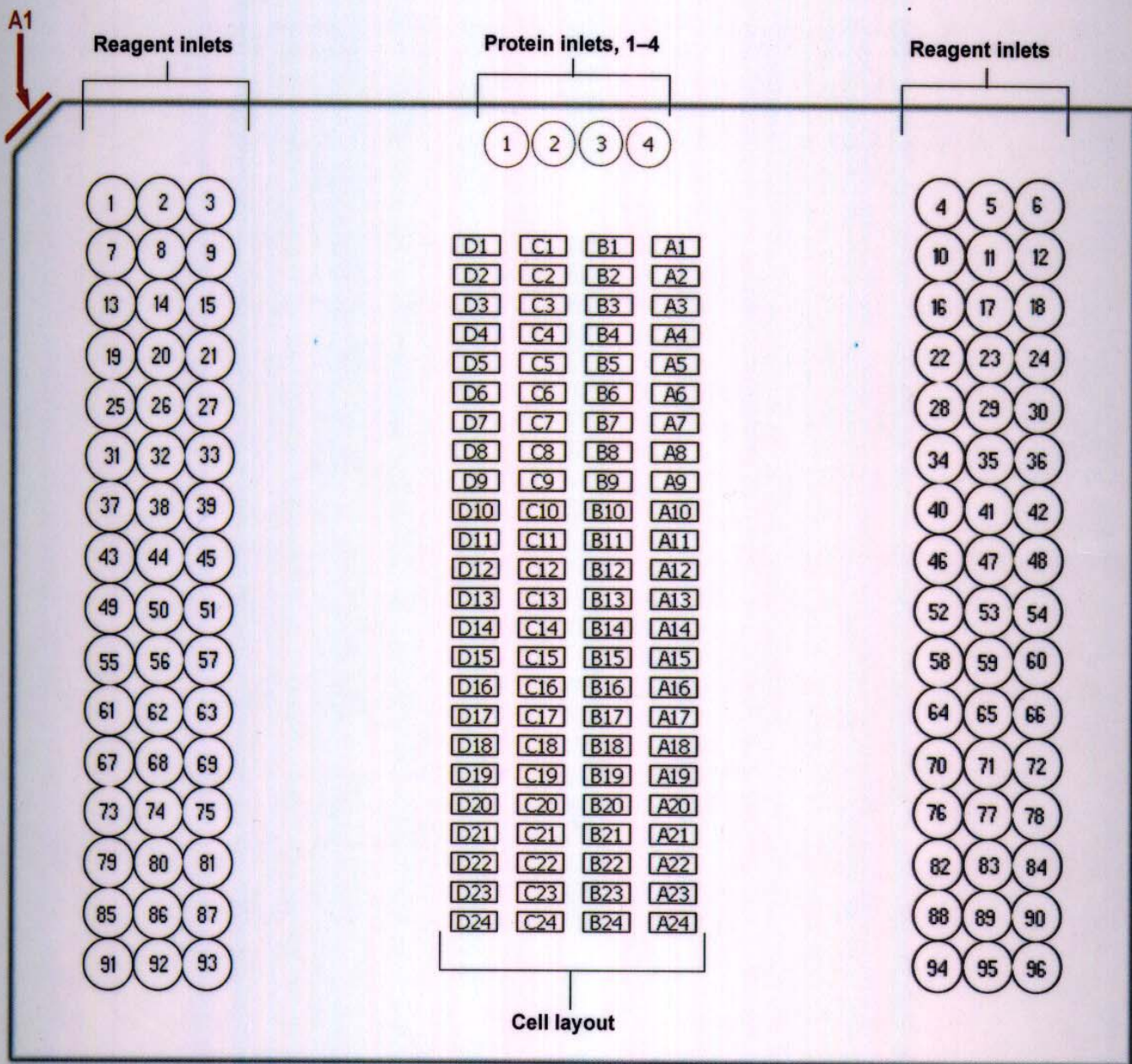
To Contact Fluidigm Technical Support

Phone 1-866-FLUIDLINE (1.866. 358.4354) or outside the U.S: 650-266-6100

Email techsupport@fluidigm.com

Internet www.fluidigm.com/support.htm

Features of the TOPAZ 4.96 Chip (not to scale)



D01	1.01 2.01 1.02 2.02	1.06 2.06 1.05 2.05	C01	B01	4.01 3.01 4.02 3.02	A01	4.06 3.06 4.05 3.05
D02	1.03 2.03 1.07 2.07	1.04 2.04 1.12 2.12	C02	B02	4.03 3.03 4.07 3.07	A02	4.04 3.04 4.12 3.12
D03	1.08 2.08 1.09 2.09	1.11 2.11 1.10 2.10	C03	B03	4.08 3.08 4.09 3.09	A03	4.11 3.11 4.16 3.10
D04	1.13 2.13 1.14 2.14	1.18 2.18 1.17 2.17	C04	B04	4.13 3.13 4.14 3.14	A04	4.18 3.18 4.17 3.17
D05	1.15 2.15 1.19 2.19	1.16 2.16 1.24 2.24	C05	B05	4.15 3.15 4.19 3.19	A05	4.16 3.16 4.24 3.24
D06	1.20 2.20 1.21 2.21	1.23 2.23 1.22 2.22	C06	B06	4.20 3.20 4.21 3.21	A06	4.23 3.23 4.22 3.22
D07	1.25 2.25 1.26 2.26	1.30 2.30 1.29 2.29	C07	B07	4.25 3.25 4.26 3.26	A07	4.30 3.30 4.29 3.29
D08	1.27 2.27 1.31 2.31	1.28 2.28 1.36 2.36	C08	B08	4.27 3.27 4.31 3.31	A08	4.28 3.28 4.36 3.36
D09	1.32 2.32 1.33 2.33	1.35 2.35 1.34 2.34	C09	B09	4.32 3.32 4.33 3.33	A09	4.35 3.35 4.34 3.34
D10	1.37 2.37 1.38 2.38	1.42 2.42 1.41 2.41	C10	B10	4.37 3.37 4.38 3.38	A10	4.42 3.42 4.41 3.41
D11	1.39 2.39 1.43 2.43	1.40 2.40 1.48 2.48	C11	B11	4.39 3.39 4.43 3.43	A11	4.40 3.40 4.48 3.48
D12	1.44 2.44 1.45 2.45	1.47 2.47 1.46 2.46	C12	B12	4.44 3.44 4.45 3.45	A12	4.47 3.47 4.46 3.46
D13	1.49 2.49 1.50 2.50	1.54 2.54 1.53 2.53	C13	B13	4.49 3.49 4.50 3.50	A13	4.54 3.54 4.53 3.53
D14	1.51 2.51 1.55 2.55	1.52 2.52 1.60 2.60	C14	B14	4.51 3.51 4.55 3.55	A14	4.52 3.52 4.60 3.60
D15	1.56 2.56 1.57 2.57	1.59 2.59 1.58 2.58	C15	B15	4.56 3.56 4.57 3.57	A15	4.59 3.59 4.58 3.58
D16	1.61 2.61 1.62 2.62	1.66 2.66 1.65 2.65	C16	B16	4.61 3.61 4.62 3.62	A16	4.66 3.66 4.65 3.65
D17	1.63 2.63 1.67 2.67	1.64 2.64 1.72 2.72	C17	B17	4.63 3.63 4.67 3.67	A17	4.64 3.64 4.72 3.72
D18	1.68 2.68 1.69 2.69	1.71 2.71 1.70 2.70	C18	B18	4.68 3.68 4.69 3.69	A18	4.71 3.71 4.70 3.70
D19	1.73 2.73 1.74 2.74	1.78 2.78 1.77 2.77	C19	B19	4.73 3.73 4.74 3.74	A19	4.78 3.78 4.77 3.77
D20	1.75 2.75 1.79 2.79	1.76 2.76 1.84 2.84	C20	B20	4.75 3.75 4.79 3.79	A20	4.76 3.76 4.84 3.84
D21	1.80 2.80 1.81 2.81	1.83 2.83 1.82 2.82	C21	B21	4.80 3.80 4.81 3.81	A21	4.83 3.83 4.82 3.82
D22	1.85 2.85 1.86 2.86	1.90 2.90 1.89 2.89	D22	B22	4.85 3.85 4.86 3.86	A22	4.90 3.90 4.89 3.89
D23	1.87 2.87 1.91 2.91	1.88 2.88 1.96 2.96	C23	B23	4.87 3.87 4.91 3.91	A23	4.88 3.88 4.96 3.96
D24	1.92 2.92 1.93 2.93	1.95 2.95 1.94 2.94	C24	B24	4.92 3.92 4.93 3.93	A24	4.95 3.95 4.94 3.94

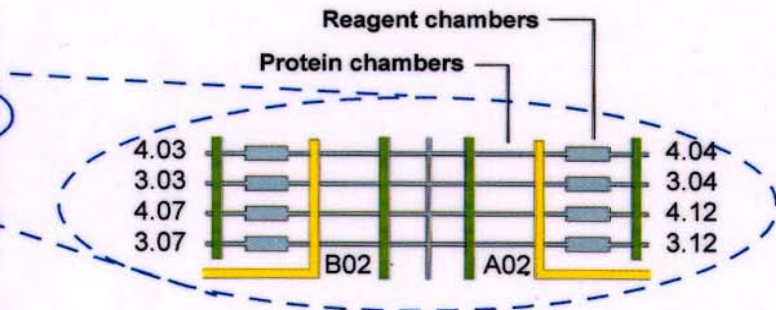


Diagram of two adjacent cells on the TOPAZ 4.96 chip. Four diffusion experiments are located at each cell.

Diffusion experiment 4.12 contains:

- protein from protein inlet 4
- reagent from reagent inlet 12

Cells Numbers

Cell numbers are visible on the TOPAZ™ 4.96 Chip. Each number serves as a locator for four diffusion experiments. The numbers associated with each diffusion experiment are not visible on the chip.

Diffusion Experiments

A diffusion experiment comprises one protein chamber and one reagent chamber. When closed, an interface valve (shown in yellow) separates the contents of each chamber. A closed containment valve (shown in green) prevents reagent cross-contamination while preserving constant chamber volumes.

Interpreting Diffusion Experiment Numbers

Each diffusion experiment number combines the number of a protein inlet and the number of a reagent inlet to reflect the protein-reagent combination at that location.

For example, diffusion experiment 4.12 (at cell A02) combines protein that was pipetted into protein inlet #4 with reagent that was pipetted into reagent inlet #12.

The figure on the reverse side shows the locations of protein and reagent inlets on the TOPAZ 4.96 Chip.

The table at left lists each cell number and the four diffusion experiments at each location.

To Contact Fluidigm Technical Support

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