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seqFISH Hyb Station

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Long Cai[1], Linus Eng[1], Nico Pierson[1], Chris Cronin[1]

[1]California Institute of Technology

Human BioMolecular Atlas Program (HuBMAP) Method Development Community
Tech. support email: **Jeff.spraggins@vanderbilt.edu**

Nico Pierson

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Protocol status: In development
We are still developing and optimizing this protocol

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Abstract

The seqFISH Hyb Station is a custom built platform consists of a liquid handling pump , a fluidic switcher , and a 96-well plate auto-sampler which aids seqFISH experiments by flowing hybridization reagents and washes in and out of a flow cell containing the biological sample. Researchers set up multi-day experiments to perform chemistries such as hybridizations, washes, and stripping. In each round of hybridization, the auto sampler handle will move to the designated well and approximately 100uL of readouts reagents are flowed into the custom made flow cell to allow hybridization. Following by imaging with a fluorescent microscope, the signals are extinguished by flowing in excess high formamide solution to melt away the readout probes. These steps are repeated until all hybridization rounds are completed. The controls of seqFISH Hyb Station and imaging are controlled and integrated using the open source software Micro-Manager.

Guidelines

Each reagent needs to be properly assigned in the 96-well plate in order to flow each hybridization, wash, or stripping reagent for each cycle.

Use a 96-well Plates and confirm that the reagents are sealed with foil.