Growing and Analyzing Biofilms in Flow Chambers

This unit describes the setup of flow chamber systems for the study of microbial biofilms, and methods for the analysis of structural biofilm formation. Use of flow chambers allows direct microscopic investigation of biofilm formation. The biofilms in flow chambers develop under hydrodynamic conditions, and the environment can be carefully controlled and easily changed. The protocols in this unit include construction of the flow chamber and the bubble trap, assembly and sterilization of the flow chamber system, inoculation of the flow chambers, running of the system, image capture and analysis, and disassembly and cleaning of the system. In addition, embedding and fluorescent in situ hybridization of flow chamber–grown biofilms are addressed. Curr. Protoc. Microbiol. 21:1B.2.1-1B.2.17. © 2011 by John Wiley & Sons, Inc.

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