BioFlux™ 200

Automated solution for live cell assays under shear flow

One system, many capabilities:

Higher biological relevance: The BioFlux System delivers controlled shear flow for simulating physiological and environmental conditions. Fully programmable changes to shear flow in real time offer the widest range of assay possibilities.

Controlled shear flow: The BioFlux 200's pneumatically-controlled flow source generates reproducibility from assay to assay, day to day, and week to week.

Higher throughput and data reliability: BioFlux runs up to 24 simultaneous flow experiments on a single plate, enabling hundreds of assays per day. Allows you to run many assays with the same cell passages and conditions.

Ease of use: Intuitive software provides a simple way to control many experiments at once. Each system is fully integrated to work with your existing lab setup.

One system, many uses: BioFlux runs a wide range of live cell applications, including microbiology, immunology, stem cells, and more. Get the most out of your lab's resources.

FLUXION

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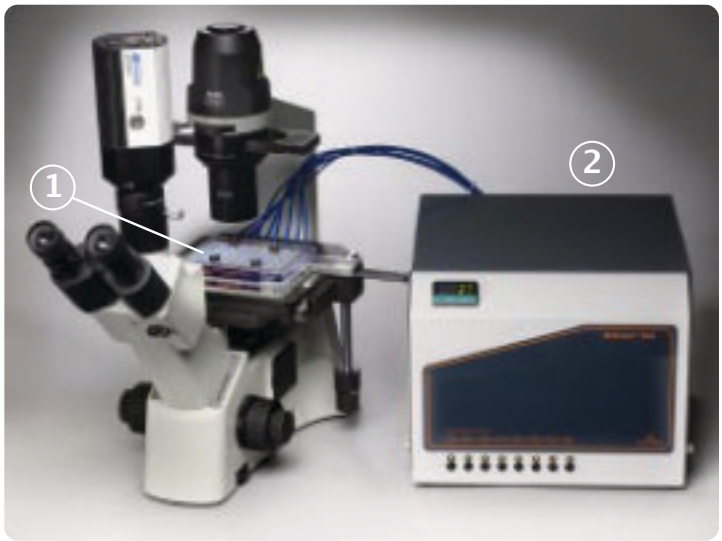
The BioFlux 200 System delivers a complete solution for functional live cell assays under controlled shear flow. Well Plate Microfluidics™ combines the ease of use of well plate assays with the data quality and relevance of shear flow experiments.

The BioFlux System incorporates Fluxion's proprietary microfluidic technology to offer an innovative solution for higher throughput shear flow assays. It offers the biological relevance of a laminar flow cell, with the throughput and convenience of standard microplates. The system comes complete with all the tools necessary to generate your data quickly and reliably.

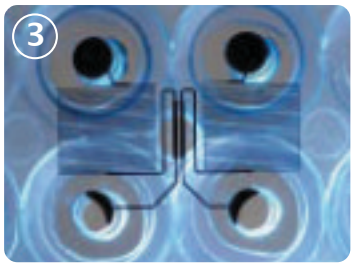
BioFlux 200 System Overview:

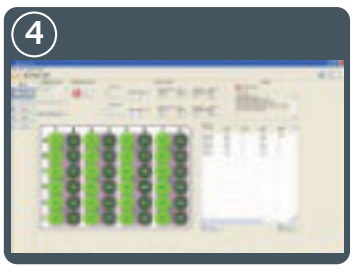
The BioFlux System is a benchtop instrument which enables up to 24 temperature-controlled flow cell assays in parallel. The BioFlux Pressure Interface connects a highly precise and accurate electropneumatic pump to the well plates to initiate controlled shear flow. The system works with your existing inverted microscope and is compatible with fluorescence, brightfield, phase, and confocal imaging. User-friendly software automates experimental controls and provides a powerful analysis package.



1. The Pressure Interface mounts on top of the BioFlux Plates and sits on an inverted microscope.

2. The BioFlux Controller connects to the Pressure Interface and controls shear flow, temperature and flow direction.





3. BioFlux Plates are SBS-standard well plates with integrated flow cells that can be loaded using pipettes or liquid handling workstations. The bottom of each flow cell is formed with a 180µm cover slip for optimal imaging.

4. BioFlux Software offers complete control over experimental conditions, including dynamic control over shear flow changes.

BioFlux 200 Product Specifications

BioFlux 200 Controller:

Shear flow range: 0.5–20dyne/cm^2

Temperature Control: ambient to 50°C (+/–1°C)

Dimensions: 12"(W) X 13"(L) X 9"(H)

30cm(W) X 33cm"(L) X 22cm(H)

BioFlux Plate:

Plate Formats: SBS–standard well plates, pre–sterile

24–well BioFlux Plate: 8 experimental channels, two inputs per channel (for compound additions)

48–well BioFlux Plate: 24 experimental channels, one input per channel

Throughput: up to 24 simultaneous experiments per 48–well BioFlux Plate

Imaging Surface: 180µm cover slip glass

Microfluidic channel dimensions: 350µm wide X 70µm tall

BioFlux Software:

Operating Modules: Manual, AutoRun Editor, AutoRun, Image Acquisition, Image Analysis

Operating system: Windows 2000 or XP

Memory: 1GB RAM

Available Hard Drive Space: 2GB

US B 2.0 Connection

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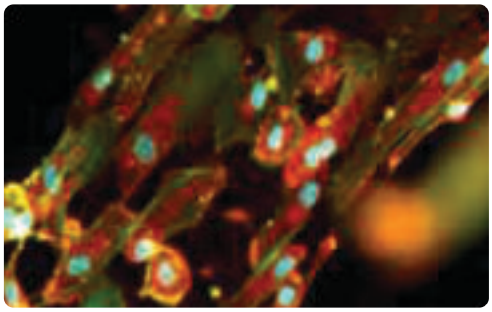
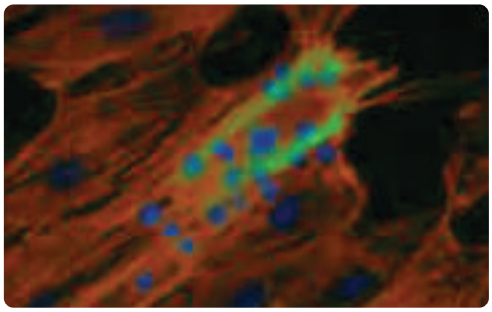
One System, Many Applications…

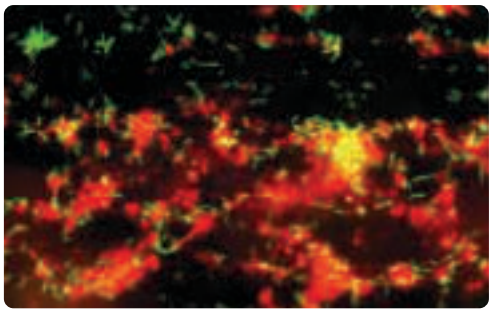
BioFlux 200 provides a versatile solution for live cell imaging under shear flow. It supports a wide variety of applications in cellular biology, vascular biology, microbiology, stem cells, and more.



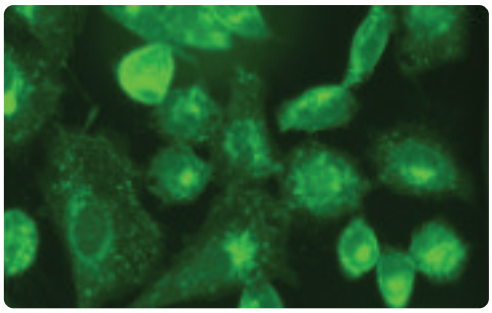
An endothelial cell monolayer grown under controlled shear flow. Stained with F–actin to identify cytoskeletal changes under shear flow. Imaged with a 20X objective.



An adhesion assay under shear flow showing Jurkat cells adhering to IL1–ß activated HUVEC monolayer. Stained with Hoescht and phalloidin and imaged with a 20X objective.



A Pseudomonas fluorescens biofilm grown at 2 dyne/cm^2 for 24 hours. Stained with a BacLight kit (Invitrogen) and imaged with a 20X objective.



CHO cells grown for 16 hours on a CellTak (BD) coating. Stained with wheat germ agglutinin and imaged with a 20X objective.

Typical Applications:

- Rolling leukocyte adhesion
- Platelet adhesion
- Trans–migration assay
- Stem cell differentiation
- Microbial biofilms
- Dose response / IC_{50} assays
- Life cycle analysis (mitosis, apoptosis, etc.)

Ordering Information:

To request a quote or to place an order:
sales@fluxionbio.com

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