

Be part of the **change** and get  
your **own shear stress kit**

**CONTACT US**



MIMIC  
**PHYSIOLOGICAL FLOW**  
IS NOW **EASIER**  
WITH OUR  
**SHEAR STRESS KIT**

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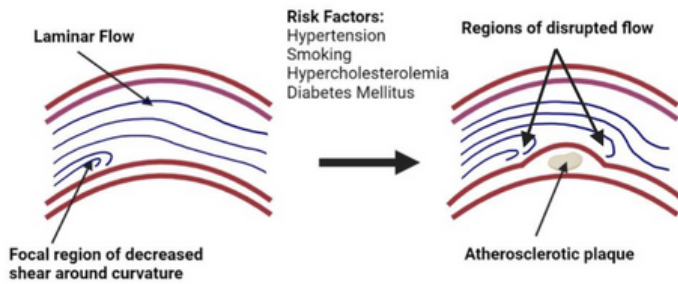
**The**  
**Shear Stress**  
**Kit**

THE Vessel-on-a-chip  
Company

## SHEAR STRESS RELEVANCE

✓ **Laminar Shear stress**  
Physiological laminar shear stress is known to be a biochemical signal that causes changes in vascular behaviour, including **inhibition of proliferation, thrombosis and inflammation** of the vessel wall.

↪ Thus, **shear stress** is **ATHEROPROTECTIVE**

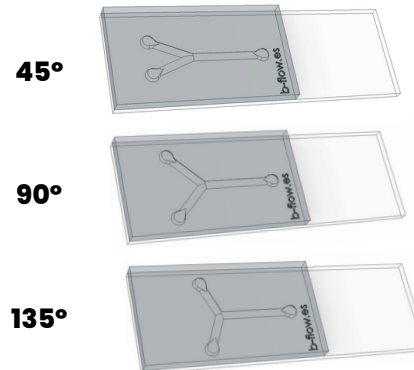


✗ **What about turbulent flow?**  
Disturbed or oscillatory flows **near arterial bifurcations, branch ostia and curvatures** are associated with **atheroma formation**. Promoting changes in:

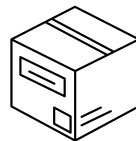
- Endothelial gene expression
- Cytoskeletal arrangement
- Wound repair
- Leukocyte adhesion
- Vasoreactive state
- Oxidative and inflammatory states

## GET THE MOST OUT OF YOUR RESEARCH

**Different angles, different shear stress conditions**



**ONE KIT, ONE COMPLETE EXPERIMENT  
ONE SOLUTION**



x15 chips with 3 different angles  
x9 chip connectors  
x9 plugs  
x6 clamps  
x3 Y connectors  
x6 m tubing



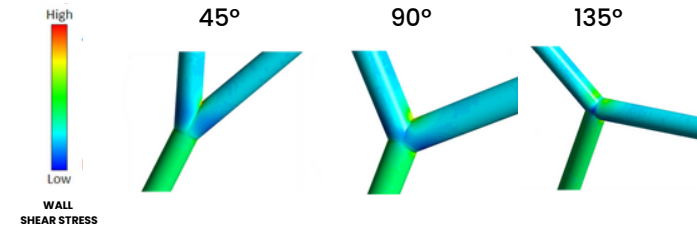
Detailed protocol  
(Download for free)

**EASY TO APPLY, EASY WITH BFLOW**

## ADVANTAGES OF OUR SHEAR STRESS KIT

### Physiological flow

Numerical simulations in a vessel-on-a-chip model show differences in wall shear stress in the bifurcated channel.



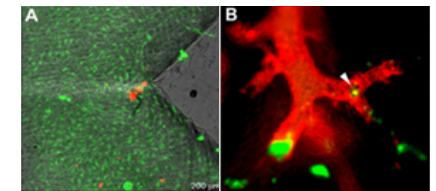
Numerical simulations: 1 mm diameter circular channel with a flow rate of 6 mm/min

### 3D cell culture

Improved **geometry** to simulate **physiological conditions** for **cell culture** and achieve an efficient resolution of **biological complexity**. Seeding cells in different conditions, at different angles and with different shear stresses.

### Functional assays

Such as **toxicity tests, circulating cell analysis, shear stress assays, dynamic studies**, etc.



Circulating Tumor Cells (CTC) interactions in **vascular bifurcation**, both on a chip (A) and in vivo (B).