



# Endothelium-on-a-Chip

Assessing blood cell adhesion to cultured endothelial cells

## About

### MIMICKING IN VIVO CONDITIONS

Provide more physiologically relevant environment compared to protein functionalized assays

### ENDOTHELIAL CELL TYPE AND SOURCE

Any type of primary human endothelial cells can be cultured under physiologic flow and activated via disease-specific pro-inflammatory agents

### PATIENT SPECIFIC ACTIVATION

Cultured endothelial cells can be activated via patients' own blood and/or blood products

### SAMPLE

Whole blood or isolated RBCs, WBCs, and platelets

## Highlights

### TARGETED THERAPIES

Drugs that target RBC sickling/deformability (e.g., Voxelotor) in SCD

### CURATIVE THERAPIES

NHLBI-supported multi-site study to assess RBC mediated microcapillary occlusions before and after a gene-based therapy for curative intent (1).

1. <https://curesickle.org>

## Typical Uses

- ✓ RESEARCH ASSAY
- ✓ PERSONALIZED MEDICINE
- ✓ DRUG DEVELOPMENT

## Single Cell Analysis

### ASSESSMENT OF ANTI-ADHESION THERAPY

