Supplementary materials

Experiment	Cell type	Mean percentage of cells moving in direction of flow (+/- 1SD)		
		36 hrs in flow	**48 hrs in flow**	**60 hrs in flow**
siCTRL/siCTRL	siCTRL cells (red)	40.8 +/- 5.3	31.1 +/- 2.6	21.8 +/- 3.7
	siCTRL cells (green)	39.1 +/- 2.4	32.2 +/- 3.0	25.8 +/- 5.4
	Combined	**40.0 +/- 4.3**	**30.9 +/- 1.1**	**23.7 +/- 4.6**
siCTRL/siALK1	siALK1 cells	33.4 +/- 5.2	22.5 +/- 6.5	23.6 +/- 6.9
	siCTRL cells	35.4 +/- 5.4	27.9 +/- 5.9	23.3 +/- 4.9
	Combined	**34.4 +/- 5.4**	**24.9 +/- 6.1**	**23.6 +/- 5.8**
siCTRL/siSMAD4	siSMAD4 cells	14.4 +/- 2.8	14.5 +/- 3.5	17.1 +/- 3.6
	siCTRL cells	22.1 +/- 5.2	20.1 +/- 4.2	22.8 +/- 6.0
	Combined	**17.4 +/- 2.4**	**16.8 +/- 1.2**	**19.5 +/- 4.1**

Table S1: Proportional cell direction of motion parallel to flow over time.

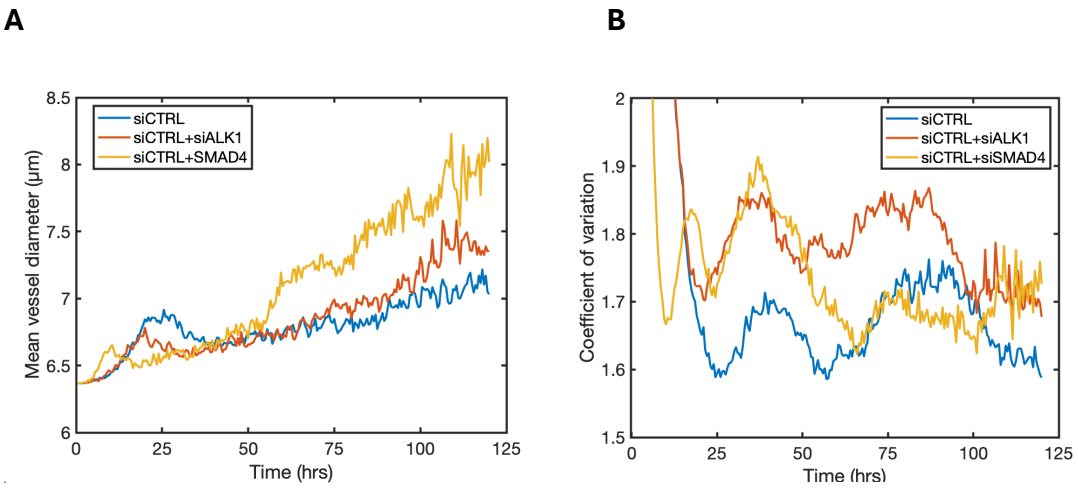

Figure S1: Changes in average vessel geometry over time. (A) Mean vessel diameter in perfused vessel segments. (B) Mean coefficient of variation of vessel diameter, an indicator of uniformity of distribution.