



**Supplemental Data 1 Tissue Factor Pathway Inhibitor (TFPI) and Lactadherin Titration:** Solid bars represent plasma samples obtained from simulated neonatal ECMO studies at 0.5 L/min after six hours of circulation. Striped bars represent plasma samples obtained from whole blood stimulated with LPS for six hours (please see Oliver et al). Data documented as mean±sem. (A) Peak thrombin inhibition of thrombogram due to increasing concentration of TFPI (nM) (B) Peak thrombin inhibition of thrombogram due to increasing concentration of lactadherin (nM). (C) Lagtime inhibition of thrombogram due to increasing concentration of TFPI (nM), (D) Lagtime inhibition of thrombogram due to increasing final concentration of lactadherin (nM),

## Supplemental Data 2: Thromboelastography Values

Category		Control	0.3 L/min	0.5 L/min	0.7 L/min
		mean±sem	mean±sem	mean±sem	mean±sem
Baseline	R (min)	7.1±0.4	7.9±0.7	6.7±0.8	6.7±0.5
	K (min)	2.2±0.1	2.5±0.1	2.1±0.2	2.1±0.1
	Angle (°)	55±2.2	52.3±4.1	52±4.5	61±1.4
	MA (mm)	64±1.0	64±1.4	64±1.7	67.2±1.3
	G (dyn/sec)	9207±424	8277±652	9096±697	10363650
	LY60 (%)	3.8±0.5	4.3±0.4	3.3±1.6	3.7±0.5
0 hours	R (min)	5.59±0.22	5.76±0.52	5.32±0.15	5.7±0.4
	K (min)	1.9±0.1	2.04±0.2	1.86±0.2	1.7±0.1
	Angle (°)	64.6±1.30	62.1±2.56	65.2±2.4	66.6±1.8
	MA (mm)	61±0.92	61±1.56	60±1.5	62.9±0.6
	G (dyn/sec)	7721±289	7128±611	7267±473	8496±215
	LY60 (%)	3.9±0.6	4.6±0.5	2.4±1.68	4.7±0.7
1 hours	R (min)	5.5±0.3	4.7±0.4	4.6±0.43	3.8±0.9
	K (min)	1.7±0.1	1.5±0.1	1.8±0.4	1.2±0.1
	Angle (°)	66±2.1	69±1.8	69±1.58	73±1.1
	MA (mm)	62±1.1	66±1.74	65±1.9	67±1.3
	G (dyn/sec)	7968±293	7369±735	9035±785	10241±5812
	LY60 (%)	3.9±0.7	4.3±0.7	2.0±1.0	4.0±0.6
2 hours	R (min)	4.7±0.2	3.3±0.5	3.8±0.2	2.8±0.2
	K (min)	1.5±0.1	1.6±0.1	1.3±0.1	1.1±0.04
	Angle (°)	68±1.4	68±1.4	73±1.2	73±0.7
	MA (mm)	63±1.0	64±1.9	61±1.8	67±1
	G (dyn/sec)	8280±428	7881±651	9156±913	10375±534
	LY60 (%)	3.5±0.6	2.9±0.6	2.3±0.8	2.6±0.5
4 hours	R (min)	4.4±0.2	2.7±0.3	3.9±0.2	2.2±0.1
	K (min)	1.5±0.1	1.2±0.2	1.5±0.2	1.4±0.3
	Angle (°)	69±1.0	67±4.6	70±2.1	72±3.6
	MA (mm)	62.2±1.1	61±4.0	59±5.4	65±3.2
	G (dyn/sec)	8165±374	7727±1651	9677±821	9506±1251
	LY60 (%)	2.3±0.4	2.3±1.0	1.7±0.9	2.1±0.6
6 hours	R (min)	3.5±0.2	2.9±0.5	3.3±0.2	2±0.1
	K (min)	1.5±0.1	1.2±0.05	1.2±0.2	1.1±0.1
	Angle (°)	69±1.7	69±3.6	72±2.1	76±0.3
	MA (mm)	64±1.4	67±1.8	67±2.3	67±1.9
	G (dyn/sec)	8932±514	5569±2066	10483±1042	10356±1425
	LY60 (%)	0.4±0.7	2.3±1.0	1.7±0.94	0.5±0.05

SEM is standard error of the mean, ns means not significantly greater than  $p > 0.05$ , using Tukeys multiple comparison test, in comparing the respective flow rate with static control. R is reaction time a measure of clot initiation time, K is kaolin a measure of clot formation time, angle is at clot reaction rate, MA is maximum amplitude a measure of a clot strength, G is a measure of clot elasticity, LY60 is percentage of clot lysis at 60 minutes.

### Supplemental Data 3: Coagulation Tests

Category		Control	0.3 L/min	0.5 L/min	0.7 L/min
		mean±sem	mean±sem	mean±sem	mean±sem
Baseline	INR	1.1±0.03	1.1±0.04	1.0±0.03	1.2±0.1
	PTT (sec)	29±0.7	30±1.9	29±1.1	29±0.6
	Fibrinogen (mg/dL)	290±13	256±21	297±10	318±29
	d-dimer (µg/mL)	0.32±0.13	0.26±0.09	0.21±0.07	0.37±0.05
	ACT (sec)	188±7.3	202±12.9	170±7.0	192±14
	AT3 (%)	103±2.9	105±3.9	102±5.9	101±6.0
	vWF (%)	104±8.7	86±9	98±16	113±3.7
0 hours	INR	1.2±0.02	1.2±0.04	1.1±0.03	1.3±0.04
	PTT (sec)	33±0.8	34±2.0	33±1.0	32±0.8
	Fibrinogen (mg/dL)	272±12	245±26	283±6.9	288±24
	d-dimer (µg/mL)	0.31±0.09	0.28±0.04	0.32±0.04	0.31±0.05
	ACT (sec)	201±3.7	198±7.0	192±5.0	213±4.2
	AT3 (%)	98±2.6	98±2.1	95±5.0	92±4.9
	Anti-Xa (U)	0.24±0.02	0.27±0.02	0.20±0.03	0.24±0.02
vWF (%)	98±8.2	79±8.1	92±12	107±4.4	
1 hour	INR	1.2±0.03	1.2±0.04	1.17±0.04	1.3±0.06
	PTT (sec)	33±0.8	34±2.1	33±1.03	32±0.4
	Fibrinogen (mg/dL)	272±12	245±23	284±9.1	290±23
	d-dimer (µg/mL)	0.27±0.1	0.30±0.1	0.27±0.08	0.30±0.05
	ACT (sec)	192±4.3	202±8.6	191±6.1	218±7.0
	AT3 (%)	95±2.3	98±2.9	95±5.1	92±5.4
	Anti-Xa (U)	0.24±0.02	0.26±0.01	0.20±0.04	0.25±0.03
vWF (%)	95±7.6	80±7.2	97±13	102±5.4	
2 hours	INR	1.20±0.02	1.2±0.04	1.2±0.04	1.4±0.05
	PTT (sec)	32±0.9	32±1.8	33±1.3	32±0.7
	Fibrinogen (mg/dL)	269±14	251±29	280±9.7	280±9.7
	d-dimer (µg/mL)	0.28±0.12	0.22±0.05	0.31±0.04	0.33±0.04
	ACT (sec)	200±3.6	190±1.9	172±5.1	216±2.7
	AT3 (%)	95±2.1	99±1.8	95±5.1	93±5.1
	Anti-Xa (U)	0.26±0.02	0.29±0.02	0.23±0.04	0.26±0.02
vWF (%)	110±12	83±8.0	98±12	110±5.8	
4 hours	INR	1.2±0.02	1.4±0.09	1.3±0.04	1.5±0.2
	PTT (sec)	33±0.8	32±2.8	34±1.1	29±1.6
	Fibrinogen (mg/dL)	278±13	218±43	288±11	265±34
	d-dimer (µg/mL)	0.26±0.1	0.40±0.14	0.30±0.03	0.89±0.43
	ACT (sec)	220±11	186±8.3	197±4.2	222±11
	AT3 (%)	93±3.1	95±4.2	96±4.8	91±7.4
	Anti-Xa (U)	0.29±0.02	0.30±0.02	0.27±0.04	0.25±0.01
vWF (%)	97±8.6	88±9.2	99±12	109±6.8	
6 hours	INR	1.3±0.03	2.3±0.4	1.3±0.04	1.55±0.09
	PTT (sec)	32±1.2	36±1.1	33±1.1	25±0.8
	Fibrinogen (mg/dL)	257±17	108±51	297±9.7	229±0
	d-dimer (µg/mL)	0.42±0.1	2.14±1.78	0.31±0.03	0.98±0
	ACT (sec)	228±15	179±8	189±7.3	200±12
	AT3 (%)	93±2.9	86±11	100±5.9	99±6.0
	Anti-Xa (U)	0.28±0.02	0.28±0.01	0.26±0.03	0.17±0
vWF (%)	97±11	72±15	105±13	106±0	

SEM is standard error of the mean, INR is international normalization ratio, PTT is partial thromboplastin time, ACT is activated clotting time, AT3 is anti-thrombin III activity, and vWF is von Willebrand activity.