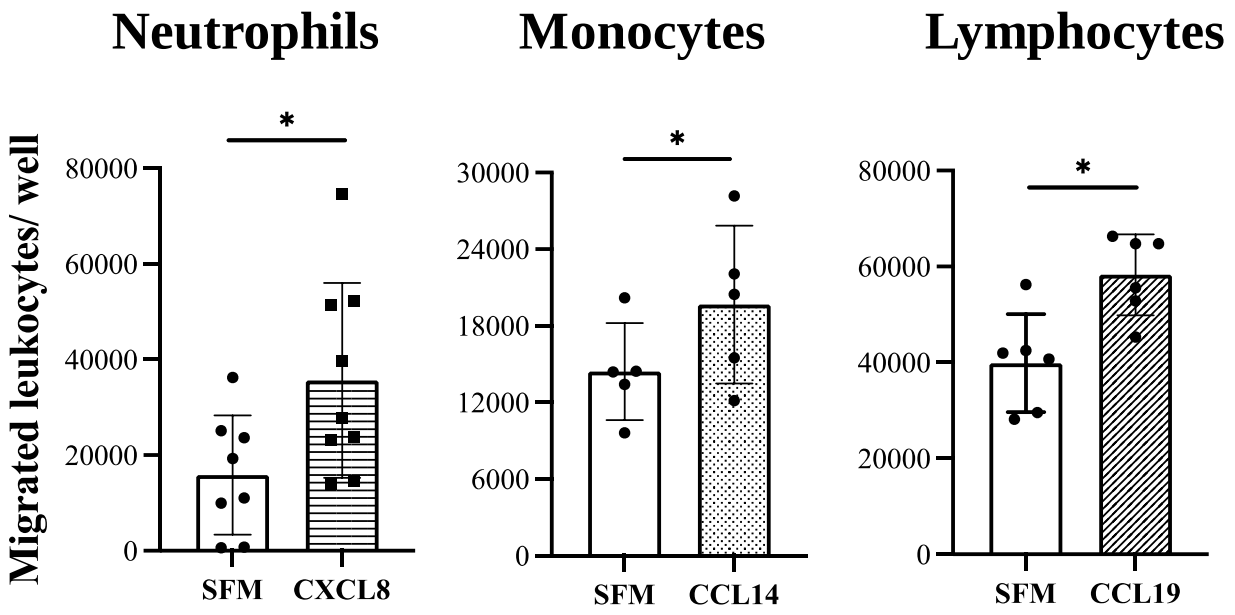
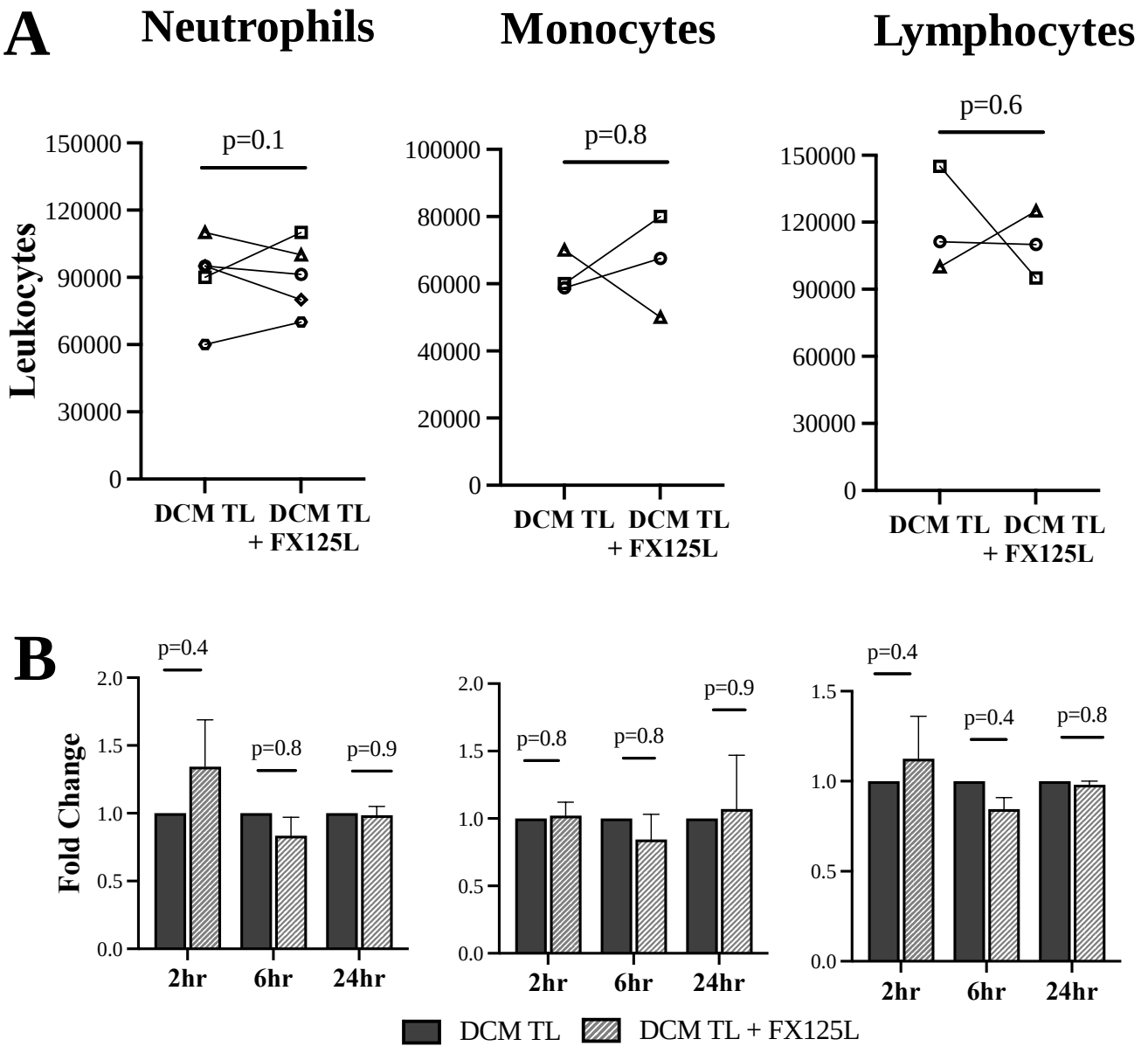


Supplemental Figure 1: Demonstration of trans-endothelial migration of primary human leukocytes towards cell-specific chemokines. Isolated human neutrophils, monocytes, and lymphocytes and uterine microvascular endothelial cells (UtMVEC) monolayers were pre-incubated for 2 hours prior to trans-endothelial migration assay with IL-8 (100ng/ml), CCL14 (100ng/ml) or CCL19 (25ng/ml). IL-8 (checkered bar) was used as chemoattractant for neutrophils, CCL14 (stripped bar) for monocyte positive control, and CCL19 (dotted bar) for lymphocyte positive control. Leukocytes (200,000 cells/well) were loaded into endothelial-coated inserts, and allowed to transmigrate for 1 hour (neutrophils) or 16 hours (monocytes and lymphocytes) towards IL-8, CCL14, and CCL19. Serum free media (SFM, solid white bar) was used as a negative control. Results are shown in a box plot as number of primary leukocytes transmigrated through membrane insert/well. Values are presented as median, with the interquartile range. Statistical significance was determined by paired t-test, *$p<0.05$.



Supplemental Figure 2: The BSCI (FX125L) has no effect on cell viability of human peripheral blood leukocytes. Trypan Blue viability test and Flow cytometry analysis were used to confirm the absence of toxic effect of FX125L on primary leukocytes. (A) Isolated primary maternal leukocytes (neutrophils, monocytes, and lymphocytes, N=3-5/group), were treated with decidual conditioned media (TL DCM) ± FX125L (400nM) for 2 hours (neutrophils) and 18 hours (monocytes and lymphocytes). Cells were then incubated with 0.4% Trypan Blue solution and counted under the microscope using a hemocytometer.
(B) Flow Cytometry was used to confirm the absence of toxic effect of FX125L on primary leukocytes isolated from peripheral blood of pregnant women (16-18 gestational weeks, N=1) and non-pregnant woman (N=1). Whole blood was incubated with TL DCM ± FX125L for 2, 6, and 24 hours**.** Leukocytes identified by CD45 (pan-leukocyte marker), were stained with a fluorophore-conjugated Abs specific for monocytes (CD14), granulocytes (CD15), and T-lymphocytes (CD3). Values are presented as mean ±SD. Statistical significance was determined by paired t-tests between treatments.

Supplemental Table 1. Patients Demographics

	TNL Decidua	**TL Decidua**	**TNL Myometrium**	**TL Myometrium**
Number of samples	19	7	17	6
Maternal Age (mean years±SD)	32.6±5.7	32.0±4.5	37.4±4.4	34.8±3.5
Parity (range)	0-3	0-1	0-2	0-2
Maternal BMI (mean±SD)	31.0±7.8	28.7±3.3	28.2 ± 7.6	33.9 ±2.7
Gestational Age (mean weeks ±SD)	38.8±0.5	38.8±0.4	38.8±0.8	39.5±0.8
Neonatal gender (Male/Female, %)	55/45	57/43	35/65	33/67

Supplemental Table 2. Forty human cytokines analyzed using the Bio-plex Pro Human Chemokine assay (BioRad, Hercules, CA).

Symbol	Name	Assay Standard Range (pg/ml)	Sensitivity (pg/ml)
CCL1	Chemokine (C-C motif) Ligand 1	2.2- 35345	1.6
CCL2	Chemokine (C-C motif) Ligand 2	0.2- 3668	0.1
CCL3	Chemokine (C-C motif) Ligand 3	0.3- 4433	0.3
CCL7	Chemokine (C-C motif) Ligand 7	1.5- 23898	1.3
CCL8	Chemokine (C-C motif) Ligand 8	0.3- 4355	0.04
CCL11	Chemokine (C-C motif) Ligand 11	1.7- 27354	2.5
CCL13	Chemokine (C-C motif) Ligand 13	0.2- 2896	0.1
CCL15	Chemokine (C-C motif) Ligand 15	1.5- 24284	0.2
CCL17	Chemokine (C-C motif) Ligand 17	1.4- 23374	1.1
CCL19	Chemokine (C-C motif) Ligand 19	2.3- 37312	1.1
CCL20	Chemokine (C-C motif) Ligand 20	0.6- 9286	0.1
CCL21	Chemokine (C-C motif) Ligand 21	2.6-42091	12.0
CCL22	Chemokine (C-C motif) Ligand 22	1.1- 18233	0.5
CCL23	Chemokine (C-C motif) Ligand 23	1- 15964	0.23
CCL24	Chemokine (C-C motif) Ligand 24	1.04- 16995	3.2
CCL25	Chemokine (C-C motif) Ligand 25	6.3- 102616	4.9
CCL26	Chemokine (C-C motif) Ligand 26	0.9- 14324	0.5
CCL27	Chemokine (C-C motif) Ligand 27	1.2-19445	3.4
CXCL1	Chemokine (C-X-C motif) Ligand 1	2.9- 46851	6.3
CXCL2	Chemokine (C-X-C motif) Ligand 2	1.2- 19090	2.7
CXCL5	Chemo5ine (C-X-C motif) Ligand 6	13.2- 216942	5.7
CXCL6	Chemokine (C-X-C motif) Ligand 6	1 - 15719	0.6
CXCL9	Chemokine (C-X-C motif) Ligand 9	5.6- 92565	1.2
CXCL11	Chemokine (C-X-C motif) Ligand 11	1.5- 25273	0.05
CXCL12	Chemokine (C-X-C motif) Ligand 12	9.9- 161788	10.3
CXCL13	Chemokine (C-C motif) Ligand 13	0.3-5641	0.1
CXCL16	Chemokine (C-X-C motif) Ligand 16	0.3- 5329	0.1
CX3CL1	Chemokine (C-X3-C motif) Ligand 1	4.35- 71290	0.9
GM-CSF	Granulocyte-Macrophage CS Factor	2.25- 36901	0.2
IFN-γ	Interferon gamma	0.15- 2393	6.4
IL1b	Interleukin 1 beta	3.6- 58216	0.6
IL2	Interleukin-2	0.4- 6182	1.6
IL4	Interleukin-4	0.6- 10332	0.7
IL6	Interleukin-6	1.1- 18143	2.6
IL8	Interleukin-8	0.7- 11342	1.0
IL10	Interleukin-10	1.8- 28901	0.3
IL16	Interleukin-16	1.6- 26246	0.4
IP-10	Interferon gamma-induced protein 10	0.3- 5522	1.1
MIF	Macrophage Inhibitory Factor	20.5- 336202	1.5
TNF-α	Tumor necrosis factor alpha	0.8- 13398	6.0

Supplemental Table 3. Five human cytokines analyzed using the Bio-plex Pro Human Chemokine assay (BioRad, Hercules, CA).

Symbol	Name	Assay Working Range (pg/ml)	Sensitivity (pg/ml)
IL-1RA	Interleukin-1 receptor antagonist	7.41-121425	5.5
CSF3/G-CSF	Granulocyte colony-stimulating factor	1.73-28267	1.7
CCL4/ MIP1b	Chemokine (C-C-motif) Ligand 4 Macrophage inflammatory protein beta	0.28-4543	2.4
CCL5/RANTES	Chemokine (C-C-motif) Ligand 5 Regulated on Activation, Normal T-cell Expressed and Secreted	0.91-14838	1.8
VEGF	Vascular Endothelial Growth Factor	2.37-38806	3.1

Supplemental Table 4. List of 27 cytokines analyzed using Pro Human Cytokine assay (BioRad, Hercules, CA)

Symbol	Name	Assay Working Range (pg/ml)	Sensitivity (pg/ml)
Eotaxin	Eotaxin	40.9-5824	2.5
FGF basic	Basic fibroblast growth factor	27.2-75811	0.9
G-CSF	Granulocyte-colony stimulating factor	2.4-11565	1.7
GM-CSF	Granulocyte-macrophage colony-stimulating factor	63.3-60392	0.2
IFN-g	Interferon gamma	92.6-52719	6.4
IL-1b	Interleukin 1 beta	3.2-3261	0.6
IL-1RA	Interleukin 1 receptor antagonist	81.1-70487	5.5
IL-2	Interleukin-2	2.1-17772	1.6
IL-4	Interleukin-4	2.2-3467	0.7
IL-5	Interleukin-5	3.1-7380	0.6
IL-6	Interleukin-6	2.3-18880	2.6
IL-7	Interleukin-7	3.1-6001	1.1
IL-8	Interleukin-8	1.9-26403	1
IL-9	Interleukin-9	2.1-7989	2.5
IL-10	Interleukin-10	2.2-8840	0.3
IL-12	Interleukin-12	3.3-13099	3.5
IL-13	Interleukin-13	3.7-3137	0.7
IL-15	Interleukin-15	2.1-2799	2.4
IL-17	Interleukin-17	4.9-12235	3.3
IP-10	Interferon gamma-induced protein 10	18.8-26867	6.1
MCP-1/CCL2	Monocyte chemoattractant protein 1	2.1-1820	1.1
MIP-1a/CCL3	Macrophage inflammatory protein 1 alpha	1.4-836	1.6
MIP-1b/CCL4	Macrophage inflammatory protein 1 beta	2-1726	2.4
PDGF-bb	Platelet-derived growth factor-BB	7-51933	2.9
RANTES/CCL5	Regulated on activation, normal T cell expressed and secreted	2.2-8617	1.8
TNFa	Tumor necrosis factor alpha	5.8-95484	6
VEGF	Vascular endothelial growth factor	5.5-56237	3.1

Supplemental Table 5. Primer pair sequences used in qRT-PCR endothelial CAM expression analysis.

GENE	Rfseq mRNA accession no	Primer sequences (5'-3')
ICAM-1	NM_000201	F: GAC CGC AGA GGA CGA GGG CA R: TTG GGC GCC GGA AAG CTG TAG
VCAM-1	NM_001078	F: TCC AGG TGG AGC TCT ACT CAT TCC R: CGG TCA AGG GGG TAC ACG CT
PECAM-1	NM_000442	F: TCC ACC AGC GTC ATT GGC GT R: TGC CCT TGC GGT GTT AGG CA
SELE	NM_000450	F: TCT GCT GCT GGA CTC TCC CTC C R: GCA GCT CTG GCA GGA ACA AA
TBP	NM_003194	F: TGC ACA GGA GCC AAG AGT GAA R: CAC ATC ACA GCT CCC CAC CA
YWHAZ	NM_003406	F: ACT TTT GGT ACA TTG TGG CTT CAA R: CCG CCA GGA CAA ACC AGT AT
SDHA	NM_004168	F: TGG GAA CAA GAG GGC ATC TG R: CCA CCA CTG CAT CAA ATT CAT G