

Supplementary data

Title

Maternal HIV infection is associated with distinct systemic cytokine profiles throughout pregnancy in South African women

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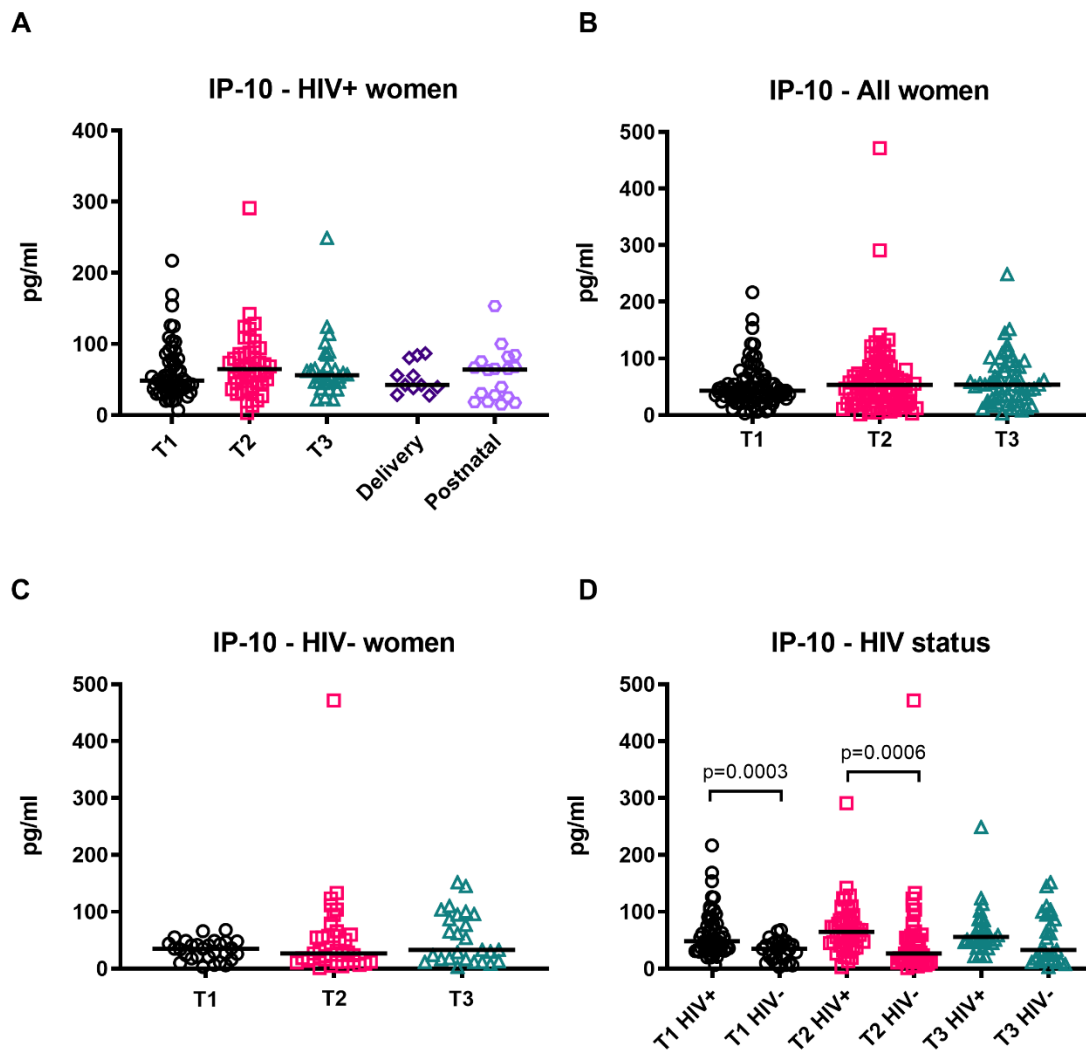
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Supplementary Figure 1. Systemic IP-10 concentrations across pregnancy. IP-10 concentration was measured in maternal plasma collected during the first (T1), second (T2) and third (T3) trimester in women living with HIV (HIV+ women) and HIV-negative women (HIV- women), as well as at delivery and six weeks postnatal for n=11 and n=18 HIV+ women, respectively. IP-10 measured in **(A)** HIV+ women, **(B)** all women (both HIV positive and HIV negative), **(C)** HIV- women and **(D)** HIV+ versus HIV- women. The Mann-Whitney U-test was used to compare median values between two groups within a trimester. The Kruskal-Wallis test was used to compare median values of more than two groups followed by Dunn's multiple comparisons test to determine differences between two groups.

	Trimester						Delivery	Postnatal	P		
	1		2		3						
	n		n		n						
All Women											
IL-1 β	23 _a	18.9%	16 _a	16.2%	9 _a	13.2%				0.625	
TNF- α	1 _a	0.8%	4 _a	4.0%	2 _a	2.9%				0.261	
IP-10	83 _a	68.0%	82 _b	82.8%	57 _{a,b}	83.8%				0.01	
IL-8	4 _a	3.3%	6 _a	6.1%	2 _a	2.9%				0.559	
IFN α 2	6 _a	4.9%	7 _a	7.1%	7 _a	10.3%				0.374	
IFN β	36 _a	29.5%	26 _a	26.3%	15 _a	22.1%				0.528	
IFN λ 1	12 _a	9.8%	33 _b	33.3%	25 _b	36.8%				0.00	
IFN λ 2/3	35 _a	28.7%	33 _a	33.3%	16 _a	23.5%				0.398	
IFN γ	3 _a	2.5%	4 _a	4.0%	3 _a	4.4%				0.772	
IL-2	19 _a	15.7%	11 _a	11.1%	10 _a	14.7%				0.642	
IL-12p70	3 _a	2.5%	4 _a	4.0%	3 _a	4.4%				0.772	
IL-4	22 _a	18.2%	11 _a	11.1%	14 _a	20.6%				0.198	
IL-5	11 _a	9.1%	11 _a	11.1%	13 _a	19.1%				0.115	
IL-13	22 _a	18.2%	16 _a	16.2%	11 _a	16.2%				0.920	
IL-17A	19 _a	15.7%	7 _a	7.1%	9 _a	13.2%				0.151	
IL-17F	36 _a	29.8%	24 _a	24.2%	17 _a	25.0%				0.636	
IL-21	13 _a	10.7%	10 _a	10.1%	5 _a	7.4%				0.768	
IL-22	11 _a	10.9%	11 _a	12.8%	8 _a	12.9%				0.909	
IL-6	4 _a	3.3%	5 _a	5.1%	2 _a	2.9%				0.732	
IL-9	15 _a	12.4%	12 _a	12.1%	13 _a	19.1%				0.373	
GM-CSF	3 _a	2.5%	6 _a	6.1%	2 _a	2.9%				0.387	
IL-10	7 _a	5.7%	10 _a	10.1%	5 _a	7.4%				0.454	
HIV+ women											
IL-1 β	2 _a	3.7%	3 _a	6.7%	3 _a	9.7%	0 ¹	0.0%	0 ¹	0.0%	0.617
TNF- α	1 _a	1.9%	3 _a	6.7%	2 _a	6.5%	0 ¹	0.0%	0 ¹	0.0%	0.613
IP-10	54 ¹	100.0%	45 ¹	100.0%	31 ¹	100.0%	11 ¹	100.0%	18 ¹	100.0%	--
IL-8	2 _a	3.7%	3 _a	6.7%	0 ¹	0.0%	0 ¹	0.0%	0 ¹	0.0%	0.603
IFN α 2	3 _a	5.6%	3 _a	6.7%	5 _a	16.1%	2 _a	18.2%	0 ¹	0.0%	0.162
IFN β	7 _a	13.0%	6 _a	13.3%	3 _a	9.7%	1 _a	9.1%	0 ¹	0.0%	0.614
IFN λ 1	5 _a	9.3%	21 _b	46.7%	17 _b	54.8%	1 _{a,b}	9.1%	0 ¹	0.0%	0.000
IFN λ 2/3	4 _a	7.4%	7 _a	15.6%	2 _a	6.5%	3 _a	27.3%	0 ¹	0.0%	0.097
IFN γ	0 ¹	0.0%	1 _a	2.2%	1 _a	3.2%	0 ¹	0.0%	0 ¹	0.0%	0.559
IL-2	17 _a	31.5%	9 _a	20.0%	7 _a	22.6%	4 _a	36.4%	2 _a	11.1%	0.345
IL-12p70	2 _a	3.7%	4 _a	8.9%	3 _a	9.7%	1 _a	9.1%	0 ¹	0.0%	0.489
IL-4	11 _a	20.4%	6 _a	13.3%	8 _a	25.8%	2 _a	18.2%	0 ¹	0.0%	0.130
IL-5	9 _a	16.7%	10 _a	22.2%	10 _a	32.3%	3 _a	27.3%	1 _a	5.6%	0.190
IL-13	9 _a	16.7%	8 _a	17.8%	6 _a	19.4%	2 _a	18.2%	1 _a	5.6%	0.772
IL-17A	16 _a	29.6%	6 _a	13.3%	6 _a	19.4%	5 _a	45.5%	4 _a	22.2%	0.132
IL-17F	20 _a	37.0%	13 _a	28.9%	8 _a	25.8%	5 _a	45.5%	3 _a	16.7%	0.377
IL-21	3 _a	5.6%	3 _a	6.7%	2 _a	6.5%	2 _a	18.2%	0 ¹	0.0%	0.443
IL-22	8 _a	14.8%	7 _a	15.6%	4 _a	12.9%	4 _a	36.4%	2 _a	11.1%	0.460
IL-6	4 _a	7.4%	4 _a	8.9%	2 _a	6.5%	1 _a	9.1%	1 _a	5.6%	1.000
IL-9	11 _a	20.4%	6 _a	13.3%	7 _a	22.6%	2 _a	18.2%	2 _a	11.1%	0.771
GM-CSF	2 _a	3.7%	2 _a	4.4%	2 _a	6.5%	0 ¹	0.0%	0 ¹	0.0%	0.924
IL-10	7 _a	13.0%	7 _a	15.6%	5 _a	16.1%	3 _a	27.3%	1 _a	5.6%	0.584
HIV- women											
IL-1 β	21 _a	30.9%	13 _a	24.1%	6 _a	16.2%					0.245

TNF-α	0 ¹	0.0%	1 _a	1.9%	0 ¹	0.0%	0.572
IP-10	29 _a	42.6%	37 _b	68.5%	26 _b	70.3%	0.003
IL-8	2 _a	2.9%	3 _a	5.6%	2 _a	5.4%	0.693
IFNα2	3 _a	4.4%	4 _a	7.4%	2 _a	5.4%	0.905
IFNβ	29 _a	42.6%	20 _a	37.0%	12 _a	32.4%	0.567
IFNλ1	7 _a	10.3%	12 _a	22.2%	8 _a	21.6%	0.152
IFNλ2/3	31 _a	45.6%	26 _a	48.1%	14 _a	37.8%	0.647
IFNγ	3 _a	4.4%	3 _a	5.6%	2 _a	5.4%	1.000
IL-2	2 _a	3.0%	2 _a	3.7%	3 _a	8.1%	0.483
IL-12p70	1 _a	1.5%	0 ¹	0.0%	0 ¹	0.0%	1.000
IL-4	11 _a	16.4%	5 _a	9.3%	6 _a	16.2%	0.472
IL-5	2 _a	3.0%	1 _a	1.9%	3 _a	8.1%	0.321
IL-13	13 _a	19.4%	8 _a	14.8%	5 _a	13.5%	0.733
IL-17A	3 _a	4.5%	1 _a	1.9%	3 _a	8.1%	0.426
IL-17F	16 _a	23.9%	11 _a	20.4%	9 _a	24.3%	0.885
IL-21	10 _a	14.9%	7 _a	13.0%	3 _a	8.1%	0.620
IL-22	3 _a	6.4%	4 _a	9.8%	4 _a	12.9%	0.567
IL-6	0 ¹	0.0%	1 _a	1.9%	0 ¹	0.0%	0.572
IL-9	4 _a	6.0%	6 _a	11.1%	6 _a	16.2%	0.256
GM-CSF	1 _a	1.5%	4 _a	7.4%	0 ¹	0.0%	0.127
IL-10	0 ¹	0.0%	3 _a	5.6%	0 ¹	0.0%	0.050

Supplementary Table 1. Systemic cytokines across pregnancy. Cytokines and chemokines were measured in maternal plasma collected during the first, second and third trimester in all women studied (both women living with HIV (HIV+ women) and HIV-negative women (HIV- women)), as well as at delivery and six weeks postnatal for 11 and 18 women living with HIV, respectively. Data presented are the number and percentage of samples in which cytokines were detected by multiplex cytokine assay. The Chi-square test or Fisher's exact test was used for statistical comparisons as appropriate. Values in the same row not sharing the same subscript are significantly different in the two-sided test of equality for column proportions. Cells with no subscript are not included in the test. ¹This category is not used in comparisons because its column proportion is equal to zero or one.

		HIV Status					Preterm Status					SGA Status				
		Positive		Negative		P	Preterm		Term		P	SGA		no SGA		P
		n		n			n		n			n		n		
IL-1β	T1	2	3.7%	21	30.9%	0.000	12	25.5%	11	14.7%	0.158	6	20.7%	17	18.3%	0.789
	T2	3	6.7%	13	24.1%	0.027	6	19.4%	10	14.7%	0.770	5	21.7%	11	14.5%	0.518
	T3	3	9.7%	6	16.2%	0.494	0	0.0%	9	13.6%	1.000	4	22.2%	5	10.0%	0.231
TNF-α	T1	1	1.9%	0	0.0%	0.443	0	0.0%	1	1.3%	1.000	1	3.4%	0	0.0%	0.238
	T2	3	6.7%	1	1.9%	0.327	1	3.2%	3	4.4%	1.000	2	8.7%	2	2.6%	0.230
	T3	2	6.5%	0	0.0%	0.204	0	0.0%	2	3.0%	1.000	1	5.6%	1	2.0%	0.462
IP-10	T1	54	100.0%	29	42.6%	0.000	28	59.6%	55	73.3%	0.162	22	75.9%	61	65.6%	0.366
	T2	45	100.0%	37	68.5%	0.000	25	80.6%	57	83.8%	0.776	20	87.0%	62	81.6%	0.755
	T3	31	100.0%	26	70.3%	0.001	2	100.0%	55	83.3%	1.000	14	77.8%	43	86.0%	0.464
IL-8	T1	2	3.7%	2	2.9%	1.000	1	2.1%	3	4.0%	1.000	2	6.9%	2	2.2%	0.239
	T2	3	6.7%	3	5.6%	1.000	3	9.7%	3	4.4%	0.374	2	8.7%	4	5.3%	0.621
	T3	0	0.0%	2	5.4%	0.496	0	0.0%	2	3.0%	1.000	0	0.0%	2	4.0%	1.000
IFNα2	T1	3	5.6%	3	4.4%	1.000	0	0.0%	6	8.0%	0.081	1	3.4%	5	5.4%	1.000
	T2	3	6.7%	4	7.4%	1.000	2	6.5%	5	7.4%	1.000	3	13.0%	4	5.3%	0.348
	T3	5	16.1%	2	5.4%	0.233	1	50.0%	6	9.1%	0.197	2	11.1%	5	10.0%	1.000
IFNβ	T1	7	13.0%	29	42.6%	0.001	19	40.4%	17	22.7%	0.043	6	20.7%	30	32.3%	0.233
	T2	6	13.3%	20	37.0%	0.011	9	29.0%	17	25.0%	0.806	6	26.1%	20	26.3%	1.000
	T3	3	9.7%	12	32.4%	0.038	0	0.0%	15	22.7%	1.000	4	22.2%	11	22.0%	1.000
IFNλ1	T1	5	9.3%	7	10.3%	1.000	2	4.3%	10	13.3%	0.127	3	10.3%	9	9.7%	1.000
	T2	21	46.7%	12	22.2%	0.018	11	35.5%	22	32.4%	0.820	10	43.5%	23	30.3%	0.313
	T3	17	54.8%	8	21.6%	0.006	1	50.0%	24	36.4%	1.000	8	44.4%	17	34.0%	0.570
IFNλ2/3	T1	4	7.4%	31	45.6%	0.000	14	29.8%	21	28.0%	0.840	8	27.6%	27	29.0%	1.000
	T2	7	15.6%	26	48.1%	0.001	9	29.0%	24	35.3%	0.648	7	30.4%	26	34.2%	0.805
	T3	2	6.5%	14	37.8%	0.003	0	0.0%	16	24.2%	1.000	5	27.8%	11	22.0%	0.747
IFNγ	T1	0	0.0%	3	4.4%	0.254	1	2.1%	2	2.7%	1.000	0	0.0%	3	3.2%	1.000
	T2	1	2.2%	3	5.6%	0.624	1	3.2%	3	4.4%	1.000	1	4.3%	3	3.9%	1.000
	T3	1	3.2%	2	5.4%	1.000	0	0.0%	3	4.5%	1.000	1	5.6%	2	4.0%	1.000
IL-2	T1	17	31.5%	2	3.0%	0.000	8	17.4%	11	14.7%	0.798	8	27.6%	11	12.0%	0.075
	T2	9	20.0%	2	3.7%	0.021	2	6.5%	9	13.2%	0.494	5	21.7%	6	7.9%	0.121
	T3	7	22.6%	3	8.1%	0.167	0	0.0%	10	15.2%	1.000	3	16.7%	7	14.0%	0.717
IL-12p70	T1	2	3.7%	1	1.5%	0.583	0	0.0%	3	4.0%	0.284	1	3.4%	2	2.2%	0.560
	T2	4	8.9%	0	0.0%	0.040	2	6.5%	2	2.9%	0.587	2	8.7%	2	2.6%	0.230
	T3	3	9.7%	0	0.0%	0.090	0	0.0%	3	4.5%	1.000	1	5.6%	2	4.0%	1.000
IL-4	T1	11	20.4%	11	16.4%	0.639	8	17.4%	14	18.7%	1.000	9	31.0%	13	14.1%	0.053
	T2	6	13.3%	5	9.3%	0.750	4	12.9%	7	10.3%	0.736	4	17.4%	7	9.2%	0.275
	T3	8	25.8%	6	16.2%	0.378	0	0.0%	14	21.2%	1.000	3	16.7%	11	22.0%	0.745
IL-5	T1	9	16.7%	2	3.0%	0.012	3	6.5%	8	10.7%	0.530	5	17.2%	6	6.5%	0.131
	T2	10	22.2%	1	1.9%	0.002	5	16.1%	6	8.8%	0.313	5	21.7%	6	7.9%	0.121
	T3	10	32.3%	3	8.1%	0.015	0	0.0%	13	19.7%	1.000	6	33.3%	7	14.0%	0.090
IL-13	T1	9	16.7%	13	19.4%	0.814	8	17.4%	14	18.7%	1.000	10	34.5%	12	13.0%	0.014
	T2	8	17.8%	8	14.8%	0.787	5	16.1%	11	16.2%	1.000	5	21.7%	11	14.5%	0.518
	T3	6	19.4%	5	13.5%	0.742	0	0.0%	11	16.7%	1.000	5	27.8%	6	12.0%	0.144

IL-17A	T1	16	29.6%	3	4.5%	0.000	10	21.7%	9	12.0%	0.199	7	24.1%	12	13.0%	0.157
	T2	6	13.3%	1	1.9%	0.044	1	3.2%	6	8.8%	0.429	3	13.0%	4	5.3%	0.348
	T3	6	19.4%	3	8.1%	0.282	0	0.0%	9	13.6%	1.000	1	5.6%	8	16.0%	0.427
IL-17F	T1	20	37.0%	16	23.9%	0.161	17	37.0%	19	25.3%	0.220	14	48.3%	22	23.9%	0.019
	T2	13	28.9%	11	20.4%	0.355	8	25.8%	16	23.5%	1.000	9	39.1%	15	19.7%	0.093
	T3	8	25.8%	9	24.3%	1.000	0	0.0%	17	25.8%	1.000	7	38.9%	10	20.0%	0.126
IL-21	T1	3	5.6%	10	14.9%	0.141	5	10.9%	8	10.7%	1.000	4	13.8%	9	9.8%	0.509
	T2	3	6.7%	7	13.0%	0.340	5	16.1%	5	7.4%	0.279	3	13.0%	7	9.2%	0.694
	T3	2	6.5%	3	8.1%	1.000	0	0.0%	5	7.6%	1.000	2	11.1%	3	6.0%	0.602
IL-22	T1	8	14.8%	3	6.4%	0.213	5	14.3%	6	9.1%	0.507	4	16.7%	7	9.1%	0.286
	T2	7	15.6%	4	9.8%	0.526	0	0.0%	11	18.3%	0.030	4	20.0%	7	10.6%	0.272
	T3	4	12.9%	4	12.9%	1.000	0	0.0%	8	13.3%	1.000	2	13.3%	6	12.8%	1.000
IL-6	T1	4	7.4%	0	0.0%	0.036	0	0.0%	4	5.3%	0.159	1	3.4%	3	3.2%	1.000
	T2	4	8.9%	1	1.9%	0.174	2	6.5%	3	4.4%	0.647	3	13.0%	2	2.6%	0.08
	T3	2	6.5%	0	0.0%	0.204	0	0.0%	2	3.0%	1.000	1	5.6%	1	2.0%	0.462
IL-9	T1	11	20.4%	4	6.0%	0.025	3	6.5%	12	16.0%	0.161	7	24.1%	8	8.7%	0.048
	T2	6	13.3%	6	11.1%	0.766	2	6.5%	10	14.7%	0.331	3	13.0%	9	11.8%	1.000
	T3	7	22.6%	6	16.2%	0.549	0	0.0%	13	19.7%	1.000	3	16.7%	10	20.0%	1.000
GM-CSF	T1	2	3.7%	1	1.5%	0.583	2	4.3%	1	1.3%	0.558	0	0.0%	3	3.2%	1.000
	T2	2	4.4%	4	7.4%	0.686	1	3.2%	5	7.4%	0.662	2	8.7%	4	5.3%	0.621
	T3	2	6.5%	0	0.0%	0.204	0	0.0%	2	3.0%	1.000	0	0.0%	2	4.0%	1.000
IL-10	T1	7	13.0%	0	0.0%	0.003	1	2.1%	6	8.0%	0.247	3	10.3%	4	4.3%	0.355
	T2	7	15.6%	3	5.6%	0.178	4	12.9%	6	8.8%	0.720	3	13.0%	7	9.2%	0.694
	T3	5	16.1%	0	0.0%	0.016	0	0.0%	5	7.6%	1.000	1	5.6%	4	8.0%	1.000

Supplementary Table 2. Systemic cytokines across pregnancy according to HIV status, preterm birth status and small-for-gestational-age (SGA) status. Cytokines and chemokines were measured in maternal plasma collected during the first, second and third trimester. Data presented are the number and percentage of samples in which cytokines were detected by multiplex cytokine assay. The Chi-square test or Fisher's exact test was used for statistical comparisons as appropriate.

	Trimester						Delivery	Postnatal	P		
	1		2		3						
	n		n		n						
All Women											
Pro-inflammatory	101	82.8%	92	92.9%	61	89.7%				0.062	
Anti-viral	46	37.7%	55	55.6%	98	56.7%				0.009	
Th1	22	18.0%	17	17.2%	13	19.1%				0.950	
Th2	31	25.6%	28	28.8%	23	33.8%				0.486	
Th17	47	38.8%	37	37.4%	21	30.9%				0.537	
Pleiotropic	20	16.4%	19	19.2%	14	20.6%				0.746	
HIV+ women											
Pro-inflammatory	54	100%	45	100%	31	100%	11	100%	18	100%	--
Anti-viral	13	24.1%	25	55.6%	22	71.0%	3	27.3%	0	0.0%	<0.0001
Th1	17	31.5%	12	26.7%	8	25.8%	4	36.4%	2	11.1%	0.499
Th2	13	24.1%	16	35.6%	14	45.2%	3	27.3%	1	5.6%	0.037
Th17	22	40.7%	15	33.3%	9	29.0%	5	45.5%	6	33.3%	0.772
Pleiotropic	15	27.8%	10	22.2%	8	25.8%	3	27.3%	3	16.7%	0.893
HIV- women											
Pro-inflammatory	47	69.1%	47	87.0%	30	81.1%					0.052
Anti-viral	33	48.5%	30	55.6%	16	44.4%					0.557
Th1	5	7.4%	5	9.3%	5	13.5%					0.587
Th2	18	26.9%	12	22.2%	9	24.3%					0.839
Th17	25	37.3%	22	40.7%	12	32.4%					0.723
Pleiotropic	5	7.4%	9	16.7%	6	16.2%					0.228

Supplementary Table 3. Systemic cytokine subgroups across pregnancy. Cytokines and chemokines were measured in maternal plasma collected during the first, second and third trimester in all women studied (both women living with HIV (HIV+ women) and HIV-negative women (HIV- women)), as well as at delivery and six weeks postnatal for 11 and 18 women living with HIV, respectively. Data presented are the number and percentage of samples in which subgroups of cytokines were detected, i.e. pro-inflammatory (IL-1 β , TNF- α , IP-10, IL-8), anti-viral (IFN α 2, IFN β , IFN λ 1, IFN λ 2/3), Th1 (IFN γ , IL-2, IL-12p70), Th2 (IL-4, IL-5, IL-13), Th17 (IL-17A, IL-17F, IL-21, IL-22) and pleiotropic (IL-6, IL-9, GM-CSF, IL-10) cytokines. The Chi-square test or Fisher's exact test was used for statistical comparisons as appropriate.

		HIV Status					Preterm Status					SGA Status						
		Positive			Negative		<i>P</i>	Preterm		Term			<i>P</i>	SGA		no SGA		
		<i>n</i>			<i>n</i>			<i>n</i>		<i>n</i>		<i>n</i>			<i>n</i>		<i>n</i>	
Pro-inflammatory	T1	54	100%	47	69.1%	<0.0001	38	80.9%	63	84.0%	0.654	26	89.7%	60	76.9%	0.178		
	T2	45	100%	47	87.0%	0.015	29	93.6%	63	92.7%	>0.99	22	95.7%	56	90.3%	0.668		
	T3	31	100%	30	81.1%	0.013	2	100%	59	89.4%	>0.99	16	88.9%	35	87.5%	>0.99		
Anti-viral	T1	13	24.1%	33	48.5%	0.006	20	42.6%	26	34.7%	0.382	9	31.0%	28	33.3%	0.820		
	T2	25	55.6%	24	55.6%	>0.99	19	61.3%	36	52.9%	0.438	14	60.9%	33	48.5%	0.306		
	T3	22	71.0%	16	44.4%	0.029	2	100%	36	55.4%	0.502	12	66.7%	20	46.5%	0.151		
Th1	T1	17	31.5%	5	7.4%	0.0006	9	19.2%	13	17.3	0.800	8	27.6%	12	13.2%	0.070		
	T2	12	26.7%	5	9.3%	0.022	5	16.1%	12	17.7%	0.853	6	26.1%	10	13.3%	0.148		
	T3	8	25.8%	5	13.5%	0.199	0	0.0%	13	19.7%	>0.99	4	22.2%	7	14.6%	0.474		
Th2	T1	13	24.1%	18	26.9%	0.727	12	26.1%	19	25.3%	0.927	12	41.4%	16	18.0%	0.010		
	T2	16	35.6%	12	22.2%	0.143	10	32.3%	18	26.5%	0.553	10	43.5%	13	18.3%	0.015		
	T3	14	45.2%	9	24.3%	0.071	0	0.0%	23	34.9%	0.546	8	44.4%	12	25.5%	0.139		
Th17	T1	22	40.7%	25	37.3%	0.701	23	50.0%	24	32.0%	0.049	16	55.2%	24	28.2%	0.009		
	T2	15	33.3%	22	40.7%	0.448	13	41.9%	24	35.3%	0.526	11	47.8%	19	27.5%	0.072		
	T3	9	42.9%	12	57.1%	0.763	0	0.0%	21	31.8%	>0.99	8	44.4%	11	22.9%	0.085		
Pleiotropic	T1	15	27.8%	5	7.4%	0.003	5	10.6%	15	20.0%	0.174	7	24.1%	10	11.1%	0.081		
	T2	10	22.2%	9	16.7%	0.485	5	16.1%	14	20.6%	0.601	6	26.1%	8	11.3%	0.083		
	T3	8	25.8%	6	16.2%	0.330	0	0.0%	14	21.2%	>0.99	3	16.7%	8	17.0%	>0.99		

Supplementary Table 4. Systemic cytokine subgroups across pregnancy according to HIV status, preterm birth status and small-for-gestational-age (SGA) status. Cytokines and chemokines were measured in maternal plasma collected during the first, second and third trimester. Data presented are the number and percentage of samples in which subgroups of cytokines were detected, i.e. pro-inflammatory (IL-1 β , TNF- α , IP-10, IL-8), anti-viral (IFN α 2, IFN β , IFN λ 1, IFN λ 2/3), Th1 (IFN γ , IL-2, IL-12p70), Th2 (IL-4, IL-5, IL-13), Th17 (IL-17A, IL-17F, IL-21, IL-22) and pleiotropic (IL-6, IL-9, GM-CSF, IL-10) cytokines. The Chi-square test or Fisher's exact test was used for statistical comparisons as appropriate.