

Supplemental Table 1. Demographic characteristics compared between ATV-exposed infants with and without meconium ATV quantification (n=432)

Characteristic		Infants with meconium ATV quantification (n=175)	Infants without meconium ATV quantification (n=257)	P-value*
Maternal age at delivery $\geq 35$ years		31 (18%)	41 (16%)	0.63
Tobacco use during pregnancy		33 (19%)	49 (19%)	0.86
Alcohol use during pregnancy		20 (11%)	19 (7%)	0.18
Illicit drug use during pregnancy		21 (12%)	27 (11%)	0.70
First absolute CD4 (cells/mm <sup>3</sup> ) during pregnancy	< 200	24 (14%)	32 (12%)	0.10
	$\geq 350$	118 (67%)	151 (59%)	
Last absolute CD4 (cells/mm <sup>3</sup> ) before delivery	< 200	17 (10%)	24 (9%)	0.14
	$\geq 350$	130 (74%)	169 (66%)	
First RNA (copies/mL) during pregnancy	$\leq 400$	90 (51%)	112 (44%)	0.38
	> 1000	76 (43%)	124 (48%)	
Last RNA (copies/mL) before delivery	$\leq 400$	150 (86%)	198 (77%)	0.05
	> 1000	22 (13%)	37 (14%)	
Concomitant TDF use with ATV regimen		133 (76%)	199 (77%)	0.73
Cumulative ATV exposure duration (weeks) during pregnancy	Mean (SD)	27.4 (11.0)	22.3 (12.5)	<b>&lt; 0.001</b>
Caregiver primary language	English	109 (62%)	191 (74%)	<b>0.04</b>
	English bilingual	27 (15%)	32 (12%)	
	Spanish	33 (19%)	29 (11%)	
	Other	6 (3%)	4 (2%)	
Household annual income $\leq$ \$10,000		90 (51%)	142 (55%)	0.64

Caregiver education < high school		65 (37%)	91 (35%)	0.73
Live with partner/spouse		90 (51%)	127 (49%)	0.71
Sexually transmitted disease during pregnancy		81 (46%)	103 (40%)	0.27
Caregiver IQ	Mean (SD)	85.9 (13.0)	85.6 (14.3)	0.93
Caregiver IQ < 85		40 (23%)	63 (25%)	0.80
Caregiver: positive screen for any postpartum psychiatric syndrome		32 (18%)	37 (14%)	0.53
Caregiver: positive screen for postpartum alcohol abuse		2 (1%)	3 (1%)	0.88
Caregiver: positive screen for postpartum drug abuse		4 (2%)	4 (2%)	0.69
Infant sex	Male	96 (55%)	136 (53%)	0.69
Infant race	Black	119 (68%)	186 (72%)	0.04
	Puerto Rican	12 (7%)	5 (2%)	
	White/Other	43 (25%)	60 (23%)	
Infant Hispanic ethnicity		57 (33%)	64 (25%)	0.08
Gestational age (weeks)	Mean (SD)	38.5 (1.7)	38.0 (2.2)	0.05
Preterm (< 37 weeks gestation)		18 (10%)	49 (19%)	<b>0.01</b>
Low birth weight (< 2500 g)		20 (11%)	50 (19%)	<b>0.02</b>
Small for gestational age (< 10th percentile)		17 (10%)	35 (14%)	0.19
Infant birth year	2007	5 (3%)	11 (4%)	0.29
	2008	24 (14%)	45 (18%)	
	2009	28 (16%)	33 (13%)	
	2010	29 (17%)	39 (15%)	
	2011	41 (23%)	45 (18%)	
	2012	26 (15%)	34 (13%)	
	2013	22 (13%)	50 (19%)	

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\*Chi-square test for categorical variables; Wilcoxon test for continuous variables. Missing data: tobacco, alcohol, or illicit drug use during pregnancy (with meconium n=1, 1%; without meconium n=8, 3%), maternal first/last CD4 count during pregnancy (n=2, 1%; n=7, 3%), maternal first/last RNA count during pregnancy (n=0; n=6, 2%), maternal caregiver primary language (n=0; n=1, 0%), household annual income (n=4, 2%; n=9, 4%), caregiver

education (n=0; n=1, 0%), live with partner/spouse (n=0; n=1, 0%), sexually transmitted disease during pregnancy (n=2, 1%; n=8, 3%), maternal/caregiver IQ (n=88, 50%; n=125, 49%), maternal/caregiver positive screen for postpartum psychiatric syndrome, alcohol or drug abuse (n=64, 37%; n=111, 43%), infant race (n=1, 1%; n=6, 2%), preterm or low birth weight (n=0; n=5, 2%), small for gestational age (n=1, 1%; n=7, 3%). Tobacco, alcohol, and illicit drug use during pregnancy were determined from maternal self-report and validated through meconium analysis.<sup>24</sup> Maternal/caregiver cognition and maternal/caregiver mental health status were evaluated at the one-year-old study visit with the Wechsler Abbreviated Scale of Intelligence<sup>42</sup> and Client Diagnostic Questionnaire (CDQ),<sup>43</sup> respectively. CDI indicates the MacArthur-Bates Communicative Developmental Index.

Supplemental Table S2. Unadjusted associations of atazanavir (ATV) exposure measures with language outcomes, among infants with meconium and completed language evaluations

Language Outcome	Exposure measures					
	ATV meconium concentration (square-root transformed ng/g) <sup>a</sup>		Uninterrupted ATV exposure duration in second and third trimester (weeks) <sup>b</sup>		Cumulative ATV exposure duration during pregnancy (weeks) <sup>a</sup>	
	Estimated coefficient <sup>c</sup>	P-value	Estimated coefficient	P-value	Estimated coefficient	P-value
	(95% CI)		(95% CI)		(95% CI)	
Bayley-III Language composite score	0.20 (-0.88, 1.28)	0.72	0.36 (-0.03, 0.76)	0.07	0.22 (0.02, 0.42)	<b>0.03</b>
CDI Vocabulary Comprehension	-0.88 (-3.42, 1.67)	0.50	-0.06 (-1.15, 1.04)	0.92	0.19 (-0.34, 0.71)	0.49
CDI Word Production	-0.10 (-2.03, 1.83)	0.92	0.27 (-0.57, 1.10)	0.53	0.12 (-0.28, 0.51)	0.56
CDI Phrases Understood	1.52 (-0.70, 3.75)	0.18	0.97 (0.02, 1.91)	<b>0.05</b>	0.46 (0.01, 0.92)	<b>0.05</b>
CDI Total Gestures	0.42 (-1.95, 2.80)	0.72	0.06 (-0.95, 1.07)	0.91	0.04 (-0.45, 0.53)	0.88
Average CDI percentile score <sup>d</sup>	0.24 (-1.42, 1.91)	0.77	0.31 (-0.39, 1.01)	0.39	0.20 (-0.14, 0.54)	0.25
	Odds ratio	P-value	Odds ratio	P-value	Odds ratio	P-value
	(95% CI)		(95% CI)		(95% CI)	
Late Language Emergence (CDI score ≤10th percentile in one or more domains)	0.92 (0.74, 1.13)	0.43	0.97 (0.89, 1.06)	0.50	0.99 (0.95, 1.03)	0.69

- a. All ATV exposure durations during pregnancy are included, regardless of ATV therapy interruptions and ATV exposure timing.
- b. Excluding ATV exposure duration during the first trimester. Subjects with interrupted ATV exposure during the second or third trimester were excluded (Bayley-III, n=5; CDI and LLE, n=6)
- c. Coefficients represent changes in language score for each one unit increase in square-root transformed ATV meconium concentrations, week of either uninterrupted second and third trimester ATV exposure, or cumulative ATV exposure during pregnancy.
- d. Average CDI percentile scores were calculated from the mean of all four individual domain scores.

CI indicates confidence interval and CDI indicates the MacArthur-Bates Communicative Developmental Index