

## Appendix.

**Table 1. Major Risk Factors of Preterm Birth (PTB)<sup>\*</sup>, Spontaneous PTB, and Indicated PTB in Black Mothers<sup>†</sup> at the Boston Medical Center**

	Preterm Birth			Spontaneous Preterm Birth			Indicated Preterm Birth		
	OR	95% CI	P	OR	95% CI	P	OR	95% CI	P
Epidemiologic factors									
Smoking	1.33	1.08-1.64	7 x 10 <sup>-3</sup>	1.38	1.12-1.70	2 x 10 <sup>-3</sup>	0.96	0.74-1.25	0.76
Illicit drug use	1.48	0.97-2.25	0.07	1.35	0.89-2.04	0.15	1.13	0.67-1.89	0.65
Overall stress	1.30	1.06-1.60	0.01	1.20	0.96-1.49	0.11	1.19	0.91-1.56	0.21
Genetic ancestry									
Ancestry <sup>‡</sup>	1.11	1.02-1.20	0.01	1.10	1.00-1.21	0.04	1.05	0.94-1.17	0.43
Gene-environment interactions									
<i>CYP1A1</i> <sup>§</sup>	1.01	0.70-1.45	0.96	1.24	0.86-1.78	0.25	0.69	0.42-1.14	0.15
<i>CYP1A1</i> x smoking	1.83	1.20-2.81	5 x 10 <sup>-3</sup>	1.63	1.14-2.32	7 x 10 <sup>-3</sup>	1.06	0.68-1.66	0.80
<i>GSTT1</i> <sup>  </sup>	0.78	0.53-1.16	0.23	1.02	0.68-1.50	0.94	0.61	0.34-1.09	0.10
<i>GSTT1</i> x smoking	1.28	0.81-2.03	0.28	1.54	1.00-2.39	0.05	0.63	0.29-1.38	0.25

Tsai H-J, Hong X, Chen J, Liu X, Pearson C, Ortiz K et al. Role of African ancestry and gene-environment interactions in predicting preterm birth. *Obstet Gynecol* 2011;118.

The authors provided this information as a supplement to their article.

OR, odds ratio.

\* PTB: preterm birth with gestational age less than 37 weeks.

† Based on self-reported Black race.

‡ Ancestry is defined as African ancestry proportion and OR is expressed for each 10% increment of African ancestry.

§ *CYP11A1* (AA) as the reference group.

|| *GSTT1* (present) as the reference group.

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**Table 2. Major Risk Factors of Indicated Preterm Birth in Black Mothers\* at the Boston Medical Center**

	<b>OR</b>	<b>95% CI</b>	<b><i>P</i></b>
Maternal age	1.26	1.09-1.44	0.001
BMI	1.22	1.01-1.48	0.04
Parity	0.75	0.61-0.92	0.006
Overall stress	1.13	1.00-1.28	0.05

OR, odds ratio; BMI, body mass index.

\* Based on self-reported black race.

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**Table 3. Evaluation of Sequential Predictive Models of Preterm Birth (PTB)<sup>\*</sup>, Spontaneous PTB and indicated PTB in Black Mothers<sup>†</sup>, Using Receiver Operating Characteristic Curve Analysis and Area Under Curve Analysis**

Model	Covariates in the Model	<i>c</i> Statistic (95% CI)					
		Preterm Birth		Spontaneous Preterm Birth		Indicated Preterm Birth	
Model 1	Epidemiological variables only <sup>‡</sup>	0.58	0.52-0.63	0.58	0.53-0.63	0.52	0.47-0.57
Model 2	Model 1 + ancestry	0.62	0.57-0.67	0.62	0.57-0.67	0.55	0.50-0.60
Model 3	Model 1+ <i>CYP1A1</i> + <i>CYP1A1</i> *smoking + <i>GSTT1</i> + <i>GSTT1</i> *smoking	0.61	0.56-0.66	0.56	0.51-0.61	0.53	0.48-0.58
Model 4	Model 1+ <i>CYP1A1</i> + <i>CYP1A1</i> *smoking + <i>GSTT1</i> + <i>GSTT1</i> *smoking only + ancestry	0.65	0.60-0.70	0.62	0.57-0.67	0.57	0.52-0.62

<sup>\*</sup> PTB: preterm birth with gestational age <37 weeks.

<sup>†</sup> Based on self-reported Black race.

<sup>‡</sup> Covariates included in model 1 are smoking, illicit drug use and overall stress.

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**Table 4. Area Under Curve for Each Predictive Model Shown in Supplemental Table 4 and Pairwise *P*-Values for Model Comparisons of Preterm Birth (PTB)<sup>\*</sup>, Spontaneous PTB and Indicated PTB in Black Mothers<sup>†</sup>**

<b>Preterm birth</b>				
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
Model 1	0.58 <sup>‡</sup>			
Model 2	0.09 <sup>§</sup>	0.62 <sup>‡</sup>		
Model 3	0.09	0.78	0.61 <sup>‡</sup>	
Model 4	0.002	0.05	0.02	0.65 <sup>‡</sup>
<b>Spontaneous preterm birth</b>				
Model 1	0.58 <sup>‡</sup>			
Model 2	0.12	0.62 <sup>‡</sup>		
Model 3	0.20	0.0008	0.56 <sup>‡</sup>	
Model 4	0.06	0.72	0.001	0.62 <sup>‡</sup>
<b>Indicated preterm birth</b>				
Model 1	0.52 <sup>‡</sup>			
Model 2	0.04	0.55 <sup>‡</sup>		
Model 3	0.68	0.61	0.53 <sup>‡</sup>	
Model 4	0.19	0.66	0.009	0.57 <sup>‡</sup>

<sup>\*</sup> PTB: preterm birth with gestational age less than 37 weeks.

<sup>†</sup> Based on self-reported black race.

<sup>‡</sup>The values in the diagonal were the area under curve for each predictive model.

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<sup>§</sup>The values in the off-diagonal were the *P*-values for testing the equality of the area under curve.

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**Table 5. Evaluation of Sequential Predictive Models of Indicated Preterm Birth in Black Mothers<sup>\*</sup>, Using Receiver Operating Characteristic Curve Analysis and Area Under Curve Analysis**

Model	Covariates in the Model	<i>c</i> Statistic (95% CI) for Indicated Preterm Birth <sup>†</sup>	
Model 1	Epidemiological variables only <sup>‡</sup>	0.56	0.51–0.61
Model 2	Model 1 + ancestry	0.56	0.51–0.61
Model 3	Model 1+ <i>CYP1A1</i> + <i>CYP1A1</i> *smoking + <i>GSTT1</i> + <i>GSTT1</i> *smoking	0.57	0.52–0.62
Model 4	Model 1+ <i>CYP1A1</i> + <i>CYP1A1</i> *smoking + <i>GSTT1</i> + <i>GSTT1</i> *smoking only + ancestry	0.60	0.55–0.65

<sup>\*</sup> Based on self-reported black race.

<sup>†</sup> Covariates included in model 1 are maternal age, body mass index, parity and overall stress.

<sup>‡</sup> Test the equality of the area under curve: Model 1 (m1) vs. Model 2 (m2), *P*=0.09; m1 vs. m3, *P*=0.52; m1 vs. m4, *P*=0.13; m2 vs. m3, *P*=0.65; m2 vs. m4, *P*=0.17; m3 vs. m4, *P*=0.02.

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**Table 6. Association Between Ancestral Proportion and Genotypes of Preterm Birth-Related Candidate Single Nucleotide Polymorphisms**

<b>Gene</b>	<b><i>Z</i></b>	<b><i>P</i></b>
<i>CYP1A1</i>	-0.10	0.92
<i>GSTT1</i>	0.14	0.89

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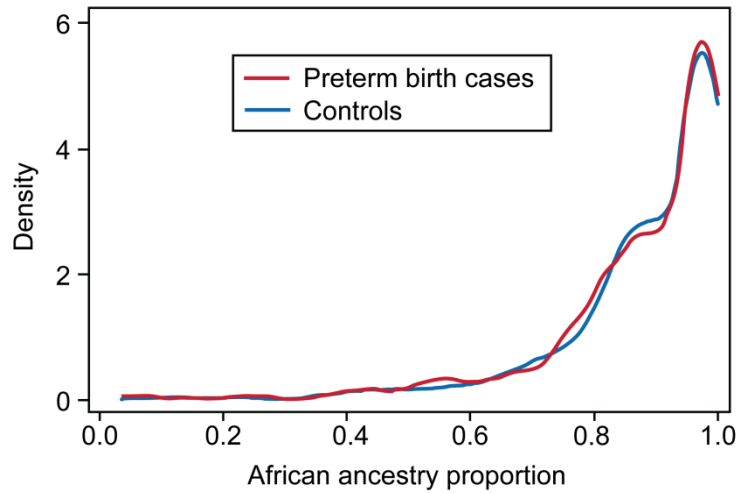


Figure 1. Distribution of African ancestry proportion between preterm cases and controls.

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