

**Supplementary Table A. Effect Modification of *NAT1* and *NAT2* in Relation to PCa Susceptibility.**

# <i>NAT1</i> *10 alleles	#Slow <i>NAT2</i> Alleles	Cases (%)    Controls (%)	Estimated OR (95% CI) <sup>a</sup>	Estimated OR (95% CI) <sup>b</sup>	P-value for Interaction
0 or 1	0 <i>NAT2</i> Slow	12 (7.1)    43 (9.4)	1.00 (Referent)	1.00 (Referent)	0.2897
0 or 1	1 <i>NAT2</i> Slow	58 (34.3)    158 (34.8)	1.32 (0.65-2.67)	1.01 (0.46-2.22)	
0 or 1	2 <i>NAT2</i> Slow	63 (37.3)    132 (29.1)	1.71 (0.84-3.47)	1.63 (0.74-3.58)	
2	0 <i>NAT2</i> Slow	3 (1.8)    18 (4.0)	0.60 (0.15-2.37)	0.73 (0.17-3.13)	
2	1 <i>NAT2</i> Slow	22 (13.0)    54 (11.9)	1.46 (0.65-3.28)	1.18 (0.48-2.90)	
2	2 <i>NAT2</i> Slow	11 (6.5)    49 (10.8)	0.80 (0.32-2.01)	0.75 (0.28-2.04)	
0 or 1	0 <i>NAT2</i> Rapid	63 (37.3)    132 (29.1)	1.00 (Referent)	1.00 (Referent)	0.2156
0 or 1	1 <i>NAT2</i> Rapid	58 (34.3)    158 (34.8)	0.77 (0.50-1.18)	0.62 (0.38-1.02)	
0 or 1	2 <i>NAT2</i> Rapid	12 (7.1)    43 (9.4)	0.58 (0.29-1.18)	0.61 (0.28-1.34)	
2	0 <i>NAT2</i> Rapid	11 (6.5)    49 (10.8)	0.47 (0.23-0.97)	0.46 (0.21-1.01)	
2	1 <i>NAT2</i> Rapid	22 (13.0)    54 (11.9)	0.85 (0.48-1.52)	0.72 (0.38-1.40)	
2	2 <i>NAT2</i> Rapid	3 (1.8)    18 (4.0)	0.35 (0.10-1.23)	0.45 (0.12-1.68)	

<sup>a</sup>Associations were determined using univariate logistic regression models to estimate the risk of developing PCa. 151 subjects had missing genotype data for *NAT1* and/or *NAT2*.

<sup>b</sup>Risk estimates adjusted for age (continuous variable) and West African Ancestry (WAA; continuous variable).

**Supplementary Table B. Combined Effects of *N*-acetyltransferase Polymorphisms and Cigarette Smoking on PCa risk**

<i>N</i> -Acetyltransferase status	Unadjusted OR (95%CI) <sup>a</sup>		Adjusted OR (95%CI) <sup>b</sup>	
	#Cases  #Ctrls <sup>c</sup>		Non-smokers	Ever-smokers
<i>NAT2</i> Rapid alleles	1.00 (Reference) 5  5	2.04 (0.54-7.62) 57  28	1.00 (Reference)	1.46 (0.33-6.45)
≥1 <i>NAT2</i> Slow allele(s)	0.71 (0.13-3.87) 5  7	3.19 (0.84-12.10) 67  21	0.33 (0.05-2.24)	2.06 (0.45-9.42)
p-value for interaction	0.1445			

<sup>a</sup>Associations were determined using multivariate logistic regression models to estimate the risk of developing PCa using Inheritance of two *NAT2* rapid alleles and non-smokers as the referent category.

<sup>b</sup>Risk estimates adjusted for age and West African Ancestry, modeled as continuous variables.

<sup>c</sup>The analysis was restricted to study participants who had available smoking and *N*-acetyltransferase genotype status analysis.