

Supplementary table 1. Marker coefficient values in the optimal maker panels for CHS sample set

	β_{BAG4}	β_{IL6ST}	β_{VWF}	$\beta_{EGFR-Protein}$	$\beta_{EGFR-SLeA}$	$\beta_{EGFR-SLeX}$	$\beta_{CD44-Protein}$	$\beta_{CD44-SLeA}$	$\beta_{CD44-SLeX}$
BAG4 + IL6ST + VWF + EGFR	1.25	0.64	0.9	0.26					
BAG4 + IL6ST + VWF + EGFR*	1.29	0.61	1.01	0.36	0.11	0.15			
BAG4 + IL6ST + VWF + CD44	0.97	0.72	0.81				0.35		
BAG4 + IL6ST + VWF + CD44*	1.37	0.66	1.06				0.29	0.28	0.2

*EGFR and CD44 glycomic information (SLeX and SLeA) are considered for these marker combinations.