

Supplemental Table 1. List of SNPs analyzed and their role in Vitamin D pathway

Chromosome	Gene	Name	SNP	Role
4	<i>GC</i>	Group-Component	rs7041 rs2298849	Involved in transport of vitamin D <sub>3</sub> ; encodes vitamin D binding protein
11	<i>CYP2R1</i>	Vitamin D 25-hydroxylase	rs10766196 rs10741657	Converts vitamin D into active ligand for vitamin D receptor
11	<i>NADSYN1/</i> <i>DHCR7</i>	7-dehydrocholesterol reductase	rs4944957 rs12800438	Encodes 7-dehydrocholesterol reductase. Both SNPs are located in intronic region of <i>NADSYN1</i> (near <i>DHCR7</i> gene).
12	<i>VDR</i>	Vitamin D receptor	rs739837 rs886441	Encodes nuclear hormone receptor for vitamin D <sub>3</sub>
15	<i>OCA2</i>	Oculocutaneous albinism II	rs1800404	Encodes p-protein, triggers transport of small molecules into melanosomes
15	<i>SLC24A5</i>	Solute carrier 24 family member 5	rs1426654	Potassium-dependent sodium/calcium exchanger; associated with differences in skin pigmentation
20	<i>ASIP</i>	Agouti signaling protein	rs6058017	Antagonist of MC1R, blocks the pigmentation cascade leading to synthesis of pheomelanin (26)
20	<i>CYP24A1</i>	1,25-dihydroxyvitamin D <sub>3</sub> 24-hydroxylase	rs2762941	Initiates degradation of 1,25-dihydroxyvitamin D <sub>3</sub> , by hydroxylation of the side chain.