

Get a clue: CSI and the science of forensics: using bioinformatics to link genetics and traits

Whitehead Institute Bioinformatics and Research Computing (<http://jura.wi.mit.edu/bio/>)

Exercise 2

SNP #	SNP ID	Suspect's genotype	chromosome	nearby gene? ('hgdp' link)	Trait associated with your genotype (from SNPedia or other source)
1	rs671	AA	chr12	ALDH2	Alcohol flush
2	rs713598	CC	chr7	TAS2R38	Can perceive bitter taste
3	rs2472297	TT	chr15		Slightly increased coffee consumption
4	rs17822931	TT	chr16	ABCC11	Dry earwax; less body odor
5	rs2802292	GG	chr6	FOXO3	Slightly more likely to live to 100
6	rs4988235	GG	chr2	MCM6	Lactose intolerance (appears as CC on negative strand)
7	rs560887	CC	chr2	G6PC2	Slightly higher blood glucose level (GG on negative strand)
8	rs1815739	CT	Chr11	ACTN3	Likely sprinter muscle performance
9	rs1042725	TT	chr12	HMGA2	Average height
10	rs7495174	AA	chr15	OCA2	More likely to have blue/gray eyes
11	rs10427255	CC	chr2		Higher odds of photic sneeze
12	rs1426654	AA	chr15	SLC24A5	Probably light-skinned
13	rs4481887	AA	chr1		More likely to smell odor in urine after eating asparagus

Suspect's predicted traits (from his/her DNA sample), based on associations:

Suspect doesn't drink a lot of alcohol or milk but may drink a lot of coffee. He or she is of average height, light-skinned with blue eyes. He/she can taste bitter foods, has smelly urine after eating asparagus, has dry earwax, has family members who live long, is a sprinter, has high glucose, and may sneeze when exposed to bright light.