Campbell University
Biology 111

Genetics of odor perception

Introduction

Like other characteristics and abilities, the sense of smell involves genetic components. Recently, a research group at Duke University published a research paper on human odor perception.

Directions

After having read Chapter 12 – Patterns of Inheritance, in your course textbook, read the following two news articles describing the outcome of this odor perception research. Pay particular attention to the genetics discussed (you are reading these articles in preparation for discussion of the genetics chapter in your textbook).

http://www.brainatlas.org/aba/2007/071011/full/aba1785.shtml

http://www.livescience.com/health/070916_odor_gene.html

(The research was published in the prestigious peer-reviewed research journal *Nature*, but is too complex for discussion in this class. The reference is provided specifically for those who may be interested in greater detail: Keller A, Zhuang H, Chi Q, Vosshall LB, Matsunami H, Genetic variation in a human odorant receptor alters odour perception, *Nature* 2007 Sep 27 449(7161):468-72)

Consider the following questions in preparation for the possibility of graded clicker questions during the next class period.

Questions

What is a SNP (single nucleotide polymorphism)?
What is linkage disequilibrium?
Why do you think 30% of people cannot detect androstenone?
Is the S84N receptor variant a different allele than the RT and WM alleles? Why or why not?
Why do the researchers think those who inherit the S84N receptor variant are more sensitive to androstenone?