

Researchers find genetic link to dislike of cilantro / coriander

September 13 2012, by Bob Yirka



(Medical Xpress)—Cilantro or coriander as it's known in Britain and some other places, is a leafy green herb commonly used in Mexican food and has a history of having one of those kinds of flavors that people either love or hate. Those that love it say it adds a certain zest to an otherwise bland mix of spices; those that hate it say it tastes like dirt or worse, soap. The question of why there is such a different reaction though, is one that has been asked, but unsatisfactorily answered over many years. Now, new research by a team at genetics firm 23andMe indicates that there may be a genetic link. After taking genetic samples and querying nearly 30,000 people, the team says they believe that part of the reason some people hate cilantro so much is because of a simple gene variant. They have written a paper describing their findings and

have uploaded it to the preprint server *arXiv*.

It's not a trivial pursuit, recently the journal *Flavor* conducted a survey and found that up to 21% of people of East Asian descent don't like the stuff; neither do 17% of Europeans or 14% of Africans. People who come from Latin America, Southeast Asia and the Middle East on the other hand appear to be less offended, with just three to seven percent of them objecting to the taste, hence its heightened popularity in dishes from such cultural areas.

In this new research the team focused on aldehydes, the chemicals in cilantro that give it its unique smell and taste. The genetic link the team found was part of a group of olfactory receptor genes which are quite naturally, responsible for helping to discriminate between different things that we smell; one such gene in particular, OR6A2, appears to be highly sensitive to the types of aldehydes found in cilantro. But, the thing is, not everyone has this gene, or copies of it. They say that of those studied, only half have two copies of the gene and of those 15% report not liking cilantro, in contrast to 11% of people who have no copies of the gene reporting a distaste for it.

The researchers are careful to point out that their findings don't indicate that people can place the blame for their hatred of cilantro solely on their genes, but say instead that it appears likely that genetics does play some role in the differences in response to the herb.

More information: A genetic variant near olfactory receptor genes influences cilantro preference, arXiv:1209.2096 [q-bio.GN]
arxiv.org/abs/1209.2096

Abstract

The leaves of the *Coriandrum sativum* plant, known as cilantro or coriander, are widely used in many cuisines around the world. However,

far from being a benign culinary herb, cilantro can be polarizing—many people love it while others claim that it tastes or smells foul, often like soap or dirt. This soapy or pungent aroma is largely attributed to several aldehydes present in cilantro. Cilantro preference is suspected to have a genetic component, yet to date nothing is known about specific mechanisms. Here we present the results of a genome-wide association study among 14,604 participants of European ancestry who reported whether cilantro tasted soapy, with replication in a distinct set of 11,851 participants who declared whether they liked cilantro. We find a single nucleotide polymorphism (SNP) significantly associated with soapy-taste detection that is confirmed in the cilantro preference group. This SNP, rs72921001, ($p=6.4e-9$, odds ratio 0.81 per A allele) lies within a cluster of olfactory receptor genes on chromosome 11. Among these olfactory receptor genes is OR6A2, which has a high binding specificity for several of the aldehydes that give cilantro its characteristic odor. We also estimate the heritability of cilantro soapy-taste detection in our cohort, showing that the heritability tagged by common SNPs is low, about 0.087. These results confirm that there is a genetic component to cilantro taste perception and suggest that cilantro dislike may stem from genetic variants in olfactory receptors. We propose that OR6A2 may be the olfactory receptor that contributes to the detection of a soapy smell from cilantro in European populations.

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