

Newly launched study to probe women's response to male odor

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A single gene determines whether a whiff of androstadienone smells pleasant or foul, or like nothing at all. But researchers who last year discovered this genetic peculiarity were left wondering about its social implications.

In an effort to find out, the team has now launched a series of new studies including one that explores a different link: whether women's perceptions of — and sensitivity to — androstadienone corresponds with their bodies' physiological responses to it. This follow-up study, which specifically measures indices of emotional arousal and stress in ovulating women exposed to this chemical, a component of male sweat, may help the scientists better understand the role that genes play in social interaction.

“It has been shown that when women ovulate, their response to androstadienone is strongest,” says Andreas Keller, a postdoc in Leslie Vosshall's Laboratory of Neurogenetics and Behavior. “It is also a time when women are apt to reproduce.” By exposing ovulating women to androstadienone and measuring their physiological responses to it, Keller and Vosshall ultimately hope to figure out whether androstadienone, also a derivative of testosterone and potential social signal, affects how men and women interact with one another.

The study, the first in a series, will ultimately enroll 60 women, each of whom will complete four experimental test sessions within 48 hours of ovulation. While watching a relaxing video, these women will be

periodically instructed to smell one of eight vials, which contain different concentrations of androstadienone, as well as a control odor and an odor present in oranges.

Throughout the 40-minute session, electrodes attached to the participants' feet will measure skin temperature and skin conductance, a value from which the researchers can calculate how much each participant sweats. Before and after each of the four sessions, the researchers will also collect a sample of the participants' saliva to measure their level of cortisol, a stress hormone.

The group has already shown that a person's genotype affects their perception of a potential social signal communicated through scent. Now, it is trying to see whether this direct link between genotype and perception holds true between genotype, perception and physiology, and ultimately behavior.

Source: Rockefeller University

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