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## [Do Man's Pheromones Control Woman's Behavior?](#)

*We are going to find out*

It was a breakthrough when, in September 2007, a research made at Duke University Medical Center in Durham, N.C., and The Rockefeller University in New York City detected a gene encoding for one odor receptor (of over 400 smell receptors in humans) thought to be a pheromone perceiver. The pheromone androstenone (a derivate of testosterone, abundant within male sweat and urine) was found to be connected to an odor receptor named OR7D4; mutations in the gene encoding for the receptor changed the people's olfactory responses to the smell of androstenone and a related molecule, androstadienone (also common within man's sweat and urine). The chemicals were perceived as odorless, unpleasantly urine scented, or attractively vanilla flavoring. There were two gene variations (alleles). Those who had two "normal" genes (62 %) perceived the androstenone scent as intense, urine-like foul odor. Individuals possessing a "common" variant and its allele, found the smell to be from imperceptible to weak. Just 2.5 % of the people had two copies of the mutated gene and showed even lower intensity ratings to androstenone and androstadienone, even described the smell of the steroids as sweet, like vanilla. The fact that some of these subjects could smell androstenone suggests that additional odorant receptors are turned on by these molecules. But the Rockefeller team led by Leslie Vosshall, an associate professor of neurogenetics and behavior, want to see if they can find evidence that odorant receptor variants play any role in physiological changes caused by exposure of these sex steroid-derived odors (if people who have two copies of functional variants show more changes in mood or hormonal levels when exposed to androstenone or androstadienone). The team has now started new tests checking this. The tests assess indexes of emotional arousal and stress in ovulating women exposed to these molecules, explaining the role of these genes in social behavior and man-woman interaction."It has been shown that when women ovulate, their response to androstadienone is strongest. It is also a time when women are apt to reproduce," said co-author Andreas Keller, a postdoc in Vosshall's Laboratory of Neurogenetics and Behavior. The research will enroll 60 women, which will follow 4 experimental test sessions within 48 hours of ovulation. While watching a relaxing video, the subjects will periodically have to smell one of 8 vials, which contain various amounts of androstadienone, but also a control odor and a chemical present in oranges. During the 40-minute sessions, electrodes located to the subjects' feet will assess skin temperature and skin conductance, a measure of sweating activity. Before and after each of the four sessions, the subjects will give saliva samples, for assessing their level of cortisol (stress hormone).