

NEWS BRIEFS

Is true love written in DNA?

Now the single and gullible with plenty of disposable income purportedly have a new way to attract a mate: their DNA. A start-up online dating service based in Houston is touting its ability to predict whom you'll find attractive based on a set of 11 proprietary genes they say are pheromone-based "attraction genes." The company, Pheramor, planned a February 2018 launch in the Houston market. In most respects, it resembles traditional online dating services, building a preference profile of users based on their patterns of social media use. But the company plans to build a database of DNA sequences that it will use to help "match" couples based in part on attraction-based genes. The company is trying to build credibility by citing published scientific studies showing that women are attracted to pheromone scents that differ from the scent of their own pheromones. In the most famous of these studies, the "sweaty T-shirt study," Claus Wedekind, a Swiss research scientist, published a study in 1995 that suggested that major histocompatibility complex variability affects mate preference in humans. The company's sales pitch, found on its website (<http://www.pheramor.com>), suggests that couples matched by DNA will be more satisfied and have a

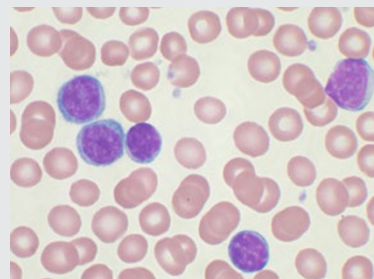


decreased likelihood of infidelity. Presumably, the dating app is testing some of these same genes. From a business standpoint, the company is entering a hot market, as dating apps and personal genomics are taking off. The market for direct-to-consumer genomics testing is estimated to be in the

billions of dollars within a few years. Companies such as Vinome (<http://www.vinome.com>) are selling the idea that genomics can help people choose wine. But the rise of companies that sell consumers on a genomics fairy that can grant them the perfect glass of wine or find them a perfect mate could ultimately hinder the credibility of serious medical genomics, not to mention raise issues of what happens to all the genetic data gathered in the name of finding true love. —Karyn Hede, News Editor

Serial DNA sequencing to track tumor evolution shows value

By observing tumor evolution in individual cancer patients over time, scientists have shown that they can predict which subset of patients is more likely to have a recurrence, according to a study published in *Nature Communications* in December 2017. The study, in patients diagnosed with chronic lymphocytic leukemia (CLL) and treated with ibrutinib, a first-in-class Bruton tyrosine kinase inhibitor, documented the development of clones with resistance to the treatment. The genetic changes were identified as early as 1–3 months after treatment initiation, and well before the affected patients developed any signs of cancer recurrence, according to the authors. Ibrutinib blocks B-cell receptor (BCR) signaling, a key pathway for CLL cell survival and proliferation. But the current study, a collaborative effort that included investigators from the New York Genome Center, the Broad Institute in Cambridge, MA, Weill Cornell Medicine in New York, and other institutions, observed near-real-time changes in pathways mediating energy metabolism, cell cycle, and BCR signaling among certain clonal populations. The investigators also documented both known and previously undescribed mutations in 17 subjects at the time of progression. The findings suggest that comprehensive sequencing of *PLCG2* should be monitored "until the spectrum of resistance mutations is fully characterized." The pattern of resistance follows that of many other cancer therapies, as many patients initially respond to treatment but relapse as a subset of cancer cells stop responding to treatment. Sequencing cancer samples from patients more frequently and using computer modeling to predict the cancer's genetic evolution could help steer treatment. "This would be a



way to extend the precision medicine paradigm to include continuous dynamic measurements in cancer with the potential of using this for continuous optimization of therapy," said Dan Landau, a co-first author of the study, in a statement. —Karyn Hede, News Editor