

# DNA connects African-Americans to roots

Genetic samples can place descendants of slavery in a tribe or region of homeland — for a fee

By Frank D. Roylance  
The Baltimore Sun

Many years ago, when Rick Kittles' white classmates would compare their families' ethnic origins, they all talked about countries such as Ireland, Italy or Germany.

When they asked him about his own roots, Kittles recalled, "I would say, 'Africa.' Other times I would make stuff up and say, 'I'm a Mandingo.' That bothered me, not knowing more about where in Africa."

Like most African-American descendants of slaves, he had no better answers because slavery had stripped its victims of their heritage, even their names.

Now, at 37, Kittles has answers — thanks to genetics.

With cells collected from simple cheek swabs, individual DNA can be compared with samples from as many as 75 different West African ethnic groups — people now living in countries that range from Senegal to Angola, and as far inland as the Central African Republic, Mali and Niger.

Kittles, a Howard University microbiologist, joined forces with business consultant Gina Paige in February to launch African Ancestry, a service to help African Americans rediscover some of the ethnic ties that slavers replaced with chains. Similar companies trace American Indian and European ancestry, said Mark Shriver, an assistant professor of anthropology at Penn State University.

But until now, none has addressed African-Americans' questions about where on the more ethnically diverse African continent their ancestors may have lived.

"I expect they will probably get a lot of interest," he said.

Kittles' tests matched his own maternal female lineage to the Hausa people now living in northern Nigeria. The DNA pattern in his father's male line was German. He wasn't surprised — his father had told him they had a white ancestor.

In fact, he said, studies have shown that 30 percent of African-American men have European genes in their Y-chromosomes, which are passed exclusively from father to son. It's a legacy of the sexual behavior of many male slaveholders.

While the test confirmed a bit of his own family's history, he said, "It doesn't tell me who I am." Nor does it change others' perceptions



The Baltimore Sun / Algeria Perna

**Gina Paige and Rick Kittles launched African Ancestry, a service that uses DNA samples to help African-Americans who are descended from slaves discover their ethnic ties to the peoples of Africa.**

of him. "They say, 'He's African-American.' They don't see my Y-chromosome."

Kittles is an assistant professor of microbiology at Howard and co-director of molecular genetics at the National Human Genome Center there. He normally studies the role of genetics in prostate cancer, which is more prevalent and severe among black men.

He created African Ancestry out of a very personal desire to use his scientific skills and well-established DNA methodology to fill the empty pages of his own family history.

Lacking shipping or immigration records, many African-Americans can only speculate about their descent from a particular region or group.

"There is a psychological need, or yearning that we have," he said. "The ancestry service provides some level of resolution, some bit of information relevant to our search for our ancestry."

Kittles has used the same techniques to trace the African origins of remains found in an 18th-century burial ground in lower Manhattan, and the Asian roots of people in Finland.

For \$349 per test, African Ancestry will extract DNA from cells swabbed by clients from inside their mouths. The DNA is then replicated from a few thousand cells to a few million. Key segments can then be sequenced and compared with the company's growing database of African genetics.

ing. I may end up taking the test myself," said genealogist Tony Burroughs, author of "Black Roots: A Beginners Guide to Tracing the African American family tree. "But if I do, it would be in line with trying to add something to the genealogical research I'm doing. I don't want to take the test in a vacuum."

Shriver cautioned that African Ancestry's DNA tests provide only a sliver of insight into an individu-

al's complete ethnic past. "Ten generations back, you have 1,024 ancestors," he said. Kittles' tests identify the ethnicity of just two.

One of those tests, called MatriClan, looks only at mitochondrial DNA — genetic material from the cells' energy-producing mitochondria — which is passed down unchanged from mother to daughter. (Sons receive it too, but do not pass it to their children.) The second test, PatriClan, sequences DNA

segments from the male Y-chromosome, which is passed down intact from fathers only to their sons. (Females have no Y-chromosomes.) Because there is no recombination of the DNA in mitochondria or Y-chromosomes during conception, Kittles said, "it is a direct signal from the past." "Those are only two lines," he said. "But those two are extremely informative, and better than zero."

Eighty percent of the tests produce a match, Kittles said. For the rest, the company claims it can identify the African ethnic group most closely related to the client's DNA with 95 percent certainty.

If there are European genes in the family tree, he said, he can probably identify those, too, by comparison to other databases.

Paige, 35, the company's co-owner and CEO, said tests of her mother's DNA revealed that her maternal lineage matched the Fillani of Nigeria; her father's paternal lineage was Portuguese.

"We were surprised, but not shocked," she said. Paige's mother had long assumed that her maiden name, Marianno, originated outside of Africa. Since getting the test results, they have discovered that Marianno is a common Portuguese name.

Genealogists say the tests can provide valuable insights, but they're no substitute for traditional genealogical drudge work — digging names, dates and places out of available records.

"I'm glad the science is develop-