

## Genetic Markers, Ancestry, and Cancer Risk

Genetic markers are DNA sequences with known location on a chromosome; they can be used to identify ancestry. Substantial research over the last 30 years has identified markers that are enriched in either sub-Saharan African, European, or Native American ancestral DNA, which allows researchers to determine the percentage of these different ancestries in a person's genome.



Although this type of genetic ancestry analysis is en vogue by commercial providers, we know that specific markers are also strongly associated with cancer risk.

- One such marker resides on human chromosome 8 and is known as 8q24.
- Individuals who carry a specific genetic pattern at 8q24 have an increased risk of developing prostate cancer.
- Prostate cancer represents one of the most significant cancer health disparities, in that African American men are almost twice as likely to develop and die from this disease compared with whites.
- Research has shown that this marker at 8q24 is enriched in sub-Saharan Africa, is a marker of African ancestry, and may in fact be at least in part responsible for the prostate cancer disparities in African American men.

Other similar studies support an interesting link between race, genetics, ancestry, and cancer health disparities.