

# Genetic variations associated with traits underlying type 2 diabetes in Mexican-Americans

December 17 2014

---

While people of Mexican ancestry are nearly twice as likely to develop Type 2 diabetes as people of European heritage, the majority of research in this area has focused on those of European origin.

In an effort to understand why Mexicans are disproportionately affected by the disease, researchers at Wake Forest Baptist Medical Center led the largest study to date to examine the underlying causes. The study is published in the Dec. 17 issue of *Diabetes*.

"Type 2 diabetes is really about how you dispose of your glucose - how long it sits in your bloodstream and how your organs react," said Nicholette Allred, Ph.D., assistant professor of biochemistry at Wake Forest Baptist and first author of the study. "With Type 2 diabetes, there is interplay between [insulin release](#) from the pancreas and insulin response in the peripheral tissues."

Using sophisticated metabolic measures, the scientists assessed the glucose response of more than 4,000 non-diabetic Mexican-Americans in seven separate studies. Each individual was genotyped to try to understand which gene variants are associated with how the body uses glucose.

The findings showed that [insulin signaling](#) and the body's response have both shared and distinct genetic contributions. Delineating the genetic

components of these quantitative traits could potentially identify novel genetic risk factors that increase the risk to develop Type 2 diabetes, Allred said.

The researchers then extended their findings to other studies using data from people with confirmed Type 2 diabetes, primarily because these powerful and sophisticated measures were not available in additional Mexican-American cohorts.

They found that some of the genes previously reported to be associated with diabetes overlapped between the two groups - Mexican-Americans without diabetes and people of European ancestry with Type 2 diabetes. Results from their report will aid in the determination of how those genes are involved in insulin signaling in the disease.

"Our study confirms that Type 2 [diabetes](#) is a more complicated disease than we once thought," Allred said. "As we look more closely at the biology, there are many pathways that contribute to development of the disease, and now with high quality metabolic measures we will be able to directly examine and try to understand it," Allred said. "Hopefully that will help us identify better targets for new drug therapies."

Provided by Wake Forest University Baptist Medical Center

Citation: Genetic variations associated with traits underlying type 2 diabetes in Mexican-Americans (2014, December 17) retrieved 19 April 2024 from <https://medicalxpress.com/news/2014-12-genetic-variations-traits-underlying-diabetes.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--