

Researchers develop powerful tool to study the genetics of inflammation

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Scientists have known which genes are linked to inflammation, but now researchers at Wake Forest University Baptist Medical Center have organized this information to develop a powerful tool to aid investigators in studying the genetics of inflammatory diseases.

Using complex web-based software called Ingenuity Pathway Analysis[®], the researchers were able to systematically map out pathways, or chains of genes, and subpathways that contribute to various aspects of inflammation.

“We basically organized the inflammation-associated genes in a systematic way,” said

Matthew Loza, Ph.D., of the Center for Human Genomics at Wake Forest University School of Medicine, and lead author of the study.

“Before, a random list of genes involved in inflammation was all you had. We started with that same list, but then built these networks to bring all these different genes together.”

The study, which was recently published by the Public Library of Science in its online journal PLoS One, has also led to the development of two customized panels for analyzing genetic variations in the inflammation pathways -- one for European and one for African descent populations. In a laboratory, these panels are analyzed using special laboratory equipment and computer systems. Researchers can obtain the custom inflammation panel through Affymetrix Corporation.

“This is so significant because inflammation is a very hot topic, and many research groups want to study it,” said Bao-Li Chang, Ph.D., assistant professor of pediatrics at Wake Forest and senior author for the study. “We have provided researchers with the tool to effectively and efficiently accomplish their goals.”

Source: Wake Forest University

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