

Toward an explanation for Crohn's disease?

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Twenty-five per cent of Crohn's disease patients have a mutation in what is called the NOD2 gene, but it is not precisely known how this mutation influences the disease. The latest study by Dr. Marcel Behr, of the Research Institute of the MUHC and McGill University, has provided new insight into how this might occur. The study will be published on July 9th in the *Journal of Experimental Medicine*.

When the NOD2 gene functions normally, it codes for a receptor that will recognize invading bacteria and then trigger the immune response. This study demonstrates that the NOD2 receptor preferentially recognizes a peptide called N-glycolyl-MDP, which is only found in a specific family of bacteria called mycobacteria. When mycobacteria invade the human body, they cause an immediate and very strong immune response via the NOD2 receptor.

"Now that we have a better understanding of the normal role of NOD2, we think that a mutation in this gene prevents mycobacteria from being properly recognized by the immune system," explained Dr. Behr. "If mycobacteria are not recognized, the body cannot effectively fight them off and then becomes persistently infected."

Researchers were already aware of the relationship between mycobacteria and Crohn's disease, but they did not know whether the presence of [bacteria](#) was a cause or a consequence of the disease. This new discovery associates the predisposition for Crohn's disease with both the NOD2 mutation and the presence of mycobacteria, but researchers must still determine the precise combination of these factors to

understand how the disease develops.

More research is required to establish a complete explanation. From this, it is expected that new therapeutic approaches that fight the cause of Crohn's disease may be developed

Source: McGill University Health Centre ([news](#) : [web](#))

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