Crohn's Disease is a type of inflammatory bowel disease, which has been shown to have a genetic component. In Crohn's disease, the body's immune system attacks the gastrointestinal tract, resulting in chronic inflammation. This disease is genetically complex, and also may be influenced by environmental factors. One of the first mutations identified to be associated with Crohn's disease is a mutation in the NOD2 gene. NOD2 is a caspase recruitment protein, primarily found in peripheral blood leukocytes, that recognizes bacterial peptidoglycans and stimulates the immune response. It is currently believed that loss of function mutations in the NOD2 gene, which can be either frame-shift mutations or point mutations, lead to an inability to recognize certain bacteria and, as a result, the innate immune system does not function properly. The affected individual's adaptive immune system may attempt to compensate for the lack of innate immunity, leading to the chronic inflammation associated with Crohn's Disease.