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Autoimmune diseases get the NOD

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Type 1 diabetes (also known as insulin-dependent diabetes mellitus, IDDM) is an autoimmune disease in which the patient's immune system destroys insulin-producing β cells of the pancreatic islets of Langerhans. The NOD (non-obese diabetic) mouse has served as a powerful animal model for deciphering the complex genetic contributions to IDDM disease. In the February Nature Genetics, Morahan *et al*. describe the identification of *IDDM18*, a new locus associated with human type 1 diabetes, following a hint from studies of NOD mice (*Nat Genet* 2001, **27:**218-221). A search for human homologs of NOD diabetes susceptibility loci led Morahan and colleagues to the human *IL12B* gene, which encodes a subunit of the interleukin 12 (IL-12) cytokine. They type 249 sibpairs for markers at the *IL12B* locus on chromosome 5q33-34. HLA-identical pairs showed strong linkage to this region. They identified a polymorphism in the 3' UTR of *IL12B*that appears to confer susceptibility by altering the levels of IL-12 expression. It is possible that the effect IL-12 has on regulating T-cell responses plays a role in other autoimmune diseases.

References

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