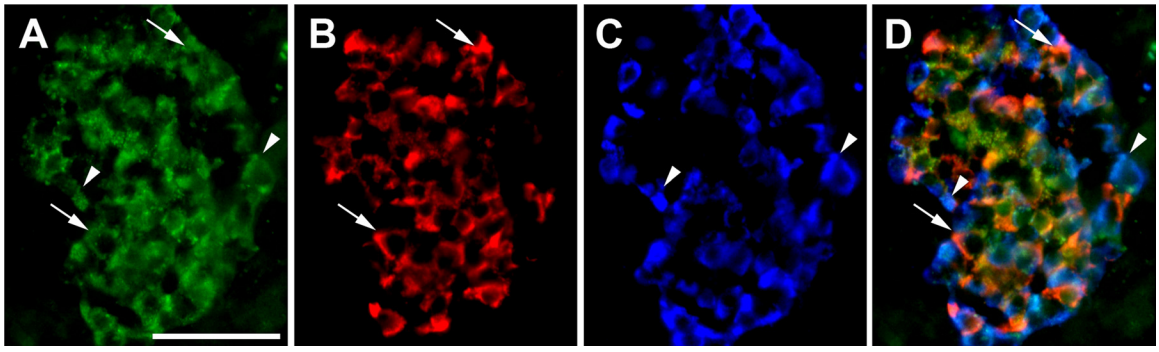
Papers of the Week

Identification of a New Autoantigen in Type 1 Diabetes♦

♦ See referenced article, *J. Biol. Chem.* 2013, **288,** 29013–29023

Autoimmunity against INS-IGF2 Protein Expressed in Human Pancreatic Islets



Triple immunofluorescence photomicrographs of sections of human pancreas. *A–C*, immunostaining for INS-IGF2, insulin, and glucagon, respectively. *D*, overlay showing co-localization with both glucagon and insulin. Co-localization with insulin is indicated by *arrows*. Co-localization with glucagon is indicated by *arrowheads*. *Scale bar* = 50 μm.

In type 1 diabetes, insulin is a critical autoantigen. The B-chain of insulin is thought to be important in eliciting the autoimmune response. A protein called INS-IGF2 has also been implicated in diabetes. In this Paper of the Week, a team led by Norio Kanatsuna at Lund University in Sweden demonstrated that INS-IGF2 was expressed in the pancreatic beta cells of normal islets and that its expression may be similarly regulated as that of insulin. The investigators went on to show that in newly diagnosed type 1 diabetics, there were increased INS-IGF2 autoantibody levels compared with healthy people. "These data suggest that INS-IGF2, which contains the preproinsulin signal peptide, the B-chain, and eight amino acids of the C-peptide, may be an autoantigen in type 1 diabetes. INS-IGF2 and insulin may share autoantibody-binding sites, thus complicating the notion that insulin is the primary autoantigen in type 1 diabetes," say the authors.

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