

Dr. Srikanth's Diabetes Specialities Centre

A significant proportion of adult patients with Type 2 diabetes have auto antibodies whose presence can predict a more rapid progression to insulin dependency. The presence of islet autoimmunity may argue against the use of insulin secretagogues that would impose additional demand on B-cell insulin production, accelerating B-cell demise and insulinopenia.

Order Your Autoimmune Diabetes Profile Today ! for Targeted Treatment

The Autoimmune Diabetes Profile includes a panel of established biomarkers to identify autoimmune diabetes and its complications.

- Autoimmune disease is not detectable by standard measures of glucose control.
- In many cases, autoantibodies are present before symptoms of diabetes or prediabetes are evident.
- Early identification of autoimmune status allows optimal therapy to prevent serious complications.
- Autoimmune positive status predicts the potential for rapid progression to insulin dependency.

In many cases, autoantibodies are present before the symptoms of diabetes or prediabetes

Autoimmune Diabetes Profile is a comprehensive panel of routine and state-of-the-art laboratory tests ideal for identification of autoimmune diabetes and its complications.

- Insulin antibody
- GAD antibody
- IA-2 antibody
- ZnT8 antibody

- Thyroglobulin antibody
- Thyroid peroxidase antibody
- Tissue transglutaminase antibody
- Total serum IgA
- Insulin C-peptide
- Hemoglobin A1c
- Free T4
- Thyroid stimulating hormone

Test	Description
GAD, GAD65	Glutamate decarboxylase is an enzyme that converts the amino acid glutamate to the molecule GABA, which is a neurotransmitter in the nervous system but also a molecule released by islet β -cells to modulate the function of adjacent a cells.The 65-kDa variant of GAD is the most common auto-antigen in autoimmune diabetes.The presence of autoantibodies to GAD (GADA), like IAA, is predictive of risk for Type 1 diabetes and can also be detected years before clinical symptoms appear.
Insulin	Insulin is the main hormone secreted by islet β -cells to control blood sugar. Autoantibodies to insulin (IAA) can confirm a diagnosis of Type 1 diabetes but can also predict risk of Type 1 diabetes since they can be present years before clinical symptoms are evident. IAA are most common in children with or at risk for Type 1 diabetes, but are less common in older individuals.

Test	Description
IA-2	Initially termed islet cell antigen 512 (ICA512) or insulinoma-associated antigen-2. In β -cells, IA-2 plays a role in the secretion of insulin. Autoantibodies against IA-2 (IA2-A) are the second most common autoantibody in Type 1 diabetes. GADA and IA-2A are the most common autoantibodies in Type 2 diabetes that also has an autoimmune component.
ZnT8	Zinc transporter 8 is a protein that imports zinc ions into the islet β -cell, where they are used to form insulin aggregates. Autoantibodies to ZnT8 are the most recently described diabetes autoantibody, and, in combination with IAA, GADA, and IA-2 autoantibodies, can identify 98% of pediatric Type 1 diabetics. A potential additional advantage of testing for ZnT8 autoantibodies in presumed Type 2 diabetes is that, due to the presence of ZnT8 in β -cells specifically, ZnT8 autoantibodies may indicate a more islet-specific autoimmunity.
Thyroglobulin antibody	Thyroglobulin antibody is directed against the thyroglobulin protein, which is only produced by the thyroid gland. Thyroglobulin is used to produce the thyroid hormones T ₃ and T ₄ . This antibody is often present in patients with an inflamed thyroid gland, and can lead to destruction of the gland and hypothyroidism. Thyroglobulin antibody can be a sign of a number of conditions such as Grave's disease or thyroid cancer, but can also reflect thyroid dysfunction resulting from diabetes. Patients with diabetes have twice the rate of hypothyroidism, with up to a third of women with Type 1 diabetes exhibiting hypothyroidism.
Thyroid peroxidase antibody	Thyroid peroxidase (TPO) antibody is directed against the TPO enzyme that converts T ₃ to T ₄ . As with anti-thyroglobulin antibodies, anti-TPO antibodies can reflect autoimmune inflammation of the thyroid gland. It is recommended that diabetics with TPO antibody be followed up with annual TSH tests to monitor thyroid disease.
Tissue transglutaminase antibody	Tissue transglutaminase (tTG) antibody, tTG-IgA, is a specific type of antibody found in the blood that is usually associated with celiac disease. This antibody is directed against tTG, an enzyme found in the intestine, and the presence of tTG-IgA indicates an immune response against gluten. Celiac disease is a complication of Type 1 diabetes. This test can be used to determine adherence to guidelines for management of pediatric diabetes.
Total serum IgA	Total serum IgA test is commonly done to exclude IgA deficiency and improve the accuracy of tTG (IgA class) antibody result. A positive tTG antibody result with normal levels of total serum IgA is indicative of celiac disease. Low levels of total serum IgA could result in a false-negative tTG test. Elevated tTG antibody levels in Type 1 diabetes indicate further testing for celiac disease and other autoimmune disorders.
Free T ₄	Free T ₄ is a measure of the active/unbound thyroxine circulating in the body. Free T ₄ is used to evaluate thyroid gland function and to help diagnose hypothyroidism and hyperthyroidism. Thyroid dysfunction occurs more frequently in diabetes.
Thyroid stimulating hormone	Thyroid Stimulating Hormone is the hormone that helps to regulate thyroid production. An underactive thyroid gland (hypothyroidism) can cause symptoms such as weight gain, tiredness, dry skin, constipation, a feeling of being too cold, or frequent menstrual periods. Autoimmune thyroid disease occurs more frequently in Type 1 diabetes.
Insulin C-peptide	C-peptide is used to monitor insulin production and to help determine the cause of low blood sugar (hypoglycemia). The test is ordered to help determine how much insulin a person's pancreas is still producing.
Hemoglobin A _{1c}	Hemoglobin A _{1c} (also known simply as "A _{1c} ") is a specific form of the hemoglobin that has the sugar glucose attached to it, which happens when the levels of glucose in the blood are elevated for an extended period of time. High A _{1c} levels are caused by high levels of blood glucose over the preceding 3 months, and can indicate the presence of prediabetes or diabetes, or poorly controlled diabetes in individuals with diagnosed diabetes. A _{1c} results are reported as a percentage of total hemoglobin. The American Diabetes Association guidelines for A _{1c} values, 4 – 5.6% optimal, 5.7 – 6.4% prediabetes and >6.5% indicates diabetes.

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