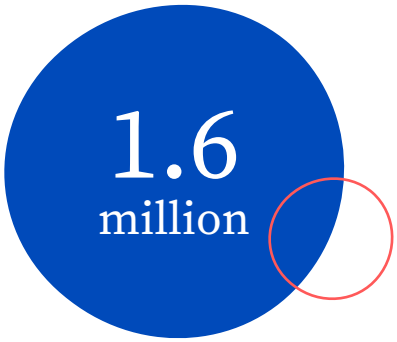
ENDOCRINOLOGY

Diabetes Autoimmune Profile

At Labcorp, we believe that early identification of type 1 diabetes can significantly improve patient care—and we can help provide the answers you need.

Type 1 diabetes (T1D) is an autoimmune disease characterized by the body's attack on pancreatic β-cells that eventually leads to inability to produce insulin. As a result, T1D can progress silently—for months or even years before the onset of symptoms. Research shows that at least 1.6 million people in the U.S. live with T1D, and the prevalence is increasing. Another estimated 300K people are at increased risk of clinical T1D in the U.S.[1].



Number of people in the U.S. living with T1D

Early identification of T1D can[3]:

- Reduce DKA at onset by up to 50%
- Improve outcomes
- Preserve β-cell function
- Identify patients for trials or novel therapies

Patients at-risk for clinical T1D may not be aware of their condition, which is often associated with family history and genetic factors. Frequently, warning signs and symptoms of T1D are mild and may be missed, and many patients end up diagnosed in the hospital suffering from severe hyperglycemia or even diabetic ketoacidosis (DKA).

About DKA: T1D typically causes elevated blood glucose levels, which can lead to life-threatening diabetic ketoacidosis (DKA). DKA is a serious condition that can lead to "metabolic scarring," a diabetic coma or even death as ketones build up in the bloodstream due to insufficient insulin production.[2-3] This metabolic scarring is associated with lower residual β-cell function, higher HbA1c for up to 15 years, and even rare neurological trauma.[3] Up to 50% of children experience DKA at onset of T1D.[3]

labcorp

The American Diabetes Association advises that physicians can offer T1D screening to any first-degree relative of T1D patients.[4]

To serve as your source for identifying and managing patients at risk for development of type 1 diabetes, we offer the Diabetes Autoimmune Profile. This combined test evaluates well-characterized islet autoantibodies such as: glutamic acid decarboxylase autoantibody (GAD-65), insulin autoantibodies (IAA), Insulinoma-associated-2 autoantibodies (IA-2), and zinc transporter-8 autoantibodies (Zn-T8). Measuring for all four autoantibodies is recommended to achieve maximum sensitivity for detecting autoimmune diabetes. Studies have shown that the combined measurement raised detection rates to 98% in new-onset T1D.[5]

You can use our test to screen for T1D, differentiate types of diabetes, and diagnose your patients. Screening for autoantibodies can identify T1D in stage 1 or 2, before overt symptoms present.[5] This early identification has been shown to reduce the incidence of DKA at disease onset by 50% or more which can reduce metabolic scarring, hospitalization, and even morbidity.[3]

Islet Cell Specific Antigen[4]	T1D Patients with One Positive Antibody[4]
GAD-65 Autoantibodies	68%
IA-2/ICA 512	72%
Insulin Autoantibodies (IAA)	55%
Zn-T8 Antibodies	63%

Test Name	Test No.	Specimen	Container	Storage
Diabetes Autoimmune Profile	**504050**	2 mL serum	Red-top tube or gel-barrier tube	**Freeze.** Stable at room temperature or refrigerated for one day. Stable frozen for seven days. Freeze/thaw cycles: stable x3.

References

1. Ward K, Pan C, Shinde M, Rievathavorn J, Hedge S, Gaebler JA; JDRF. Modeling the total economic value of novel type 1 diabetes (T1D) therapeutic concepts. https://t1dfund.org/wp-content/uploads/2020/02/Health-Advances-T1D-Concept-Value-White-Paper-2020.pdf. Published January 2020. Accessed July 15, 2021.
2. DKA (ketoacidosis) & ketones. American Diabetes Association website. Accessed July 15, 2021. https://www.diabetes.org/diabetes/complications/dka-ketoacidosis-ketones
3. Screening can reduce DKA at onset by ≥50%. Provention Bio, Inc. website. Accessed July 15, 2021. https://connectedbyt1d.com/proactive-screening
4. American Diabetes Association. 2. Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes—2021. Diabetes Care. 2021;44(Supplement 1):S15-S33. doi:10.2337/dc21-S002.
5. Wenzlau JM, Juhl K, Yu L, et al. The cation efflux transporter ZnT8 (Slc30A8) is a major autoantigen in human type 1 diabetes. Proc Natl Acad Sci U S A. 2007;104(43):17040-17045. doi:10.1073/pnas.070589410

For more information about Type 1 Diabetes and our testing options, visit **Labcorp.com/endo.**

labcorp