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Diabetes



testing at ARUP Laboratories



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When pursuing antibody testing to determine the presence of autoimmune diabetes mellitus (DM), **perform at least two of the following antibody tests:**



Laboratory Testing at ARUP

test code	test name
2001771	Glutamic Acid Decarboxylase Antibody (GAD)
3001499	Islet Antigen-2 (IA-2) Autoantibody
2006196	Zinc Transporter 8 Antibody (ZnT8)
0050138	Islet Cell Cytoplasmic Antibody, IgG (ICA)
0099228	Insulin Antibody (IAA)*

* Used to determine presence of antibodies to insulin analogues.

Indications for Autoimmune Diabetes Mellitus Insulin Antibody Testing

- Most useful in establishing autoimmune etiology in previously diagnosed type I DM.
- Order at least two antibody tests; **do not order individual antibody tests.**
- For most cases, use Glutamic Acid Decarboxylase Antibody in combination with one or more of the following: IA-2 Antibody, Zinc Transporter 8 Antibody, Islet Cell Cytoplasmic Antibody, and Insulin Antibody.¹

Type 1 DM	<ul style="list-style-type: none"> • Patient should have previously diagnosed DM: <ul style="list-style-type: none"> ◦ Antibody testing is not useful for the diagnosis of DM. ◦ Testing is not recommended for evaluating autoimmune etiology in patients receiving insulin > two weeks, as insulin antibody formation may occur (false-positive test result possible). • Most useful in newly diagnosed DM in children <18 years to establish autoimmune etiology.^{2,3} • May be useful in difficult adult cases when it is unclear if patient has type 1 or 2 DM.⁴
Type 2 DM	<ul style="list-style-type: none"> • No indication for routine evaluation or management.⁵
Screening	<ul style="list-style-type: none"> • Not recommended for screening family members of patients with type 1 DM (risk prediction) except in research settings.⁶
Limited Use	<ul style="list-style-type: none"> • Latent autoimmune DM in adults (LADA): differentiates LADA from type 2 DM.^{7,8,9} • Genetic testing: identifies patients with DM for whom a genetic etiology is suspected (e.g., monogenic DM, maturity-onset diabetes of the young [MODY]).^{4,10} Lack of antibodies suggests a genetic disorder. • Gestational diabetes mellitus (GDM): <ul style="list-style-type: none"> ◦ Screen women with history of GDM to identify those at high risk for progression to type 1 DM.^{4,11,12} ◦ No evidence to suggest test results alter outcomes or improve care when compared to intermittent hemoglobin A1c testing.^{4,11}

References: ¹Insel 2015; ²ADA 2016; ³AACE 2015; ⁴Bingley 2010; ⁵ADA 2014; ⁶ADA 2016; ⁷Lampasona 2010; ⁸Stenström 2005; ⁹Nambam 2010; ¹⁰NIH 2014; ¹¹Nilsson 2007; ¹²de Leiva 2007

For a full list of references, visit www.arupconsult.com/content/diabetes-mellitus.

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