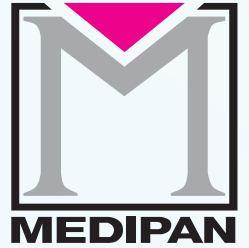


# Medizym® IAA

ELISA for the quantitative determination  
of IgG antibodies against insulin (IAA)



## Product Highlights

- Serological marker for autoimmune diabetes mellitus type 1
- Excellent diagnostic efficiency with high sensitivity and specificity
- Automatable

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30 Years of Experience, 150 Partners in more than 100 Countries

## Antibodies against Insulin (IAA)

### and their Importance in the Diagnosis of Diabetes mellitus Type 1

#### Diabetes mellitus Type 1

Diabetes mellitus type 1 is a chronic autoimmune disease in which the insulin-producing beta cells of the islets of Langerhans in the pancreas are destroyed. The consequence of this destruction is a reduced insulin production, which results in high blood sugar levels as diabetes mellitus. Genetic predispositions and viral infections are considered risk factors, but the exact causes have not yet been fully clarified.



#### Islet Cell Antibodies

The destruction of the insulin-producing beta cells of the pancreas is based on the presence of islet cell antibodies (ICA), which are directed against different antigens of the pancreatic islet cells, such as glutamic acid decarboxylase ( $GAD_{65}$ ), tyrosine phosphatase (insulinoma-associated antigen 2,  $IA_2$ ), the zinc transporter 8 (ZnT8) and against insulin. Islet cell antibodies (ICA) can be detected in 70 – 80 % of patients with diabetes mellitus. The different antibodies

usually appear months to years before the occurrence of elevated blood sugar levels and are therefore also considered important prognostic markers to identify patients with an increased risk of developing diabetes mellitus type 1. The combined detection of antibodies against  $GAD_{65}$ ,  $IA_2$ , ZnT8 and insulin is considered an important method for diagnosing diabetes mellitus type 1 at the onset of the disease.

#### Antibodies against Insulin (IAA)

The appearance of antibodies against insulin (IAA) is another indication of progressive destruction of the pancreas in patients with diabetes mellitus type 1. Their prevalence is particularly increased in children and adolescents who have not yet been treated with insulin.

#### Publications

- Potter, K.N., Wilkin, T.J. (2000) The molecular specificity of insulin autoantibodies. *Diabetes Metab. Res. Rev.* 16, 338 – 53.
- Elfving, A.M., Lindberg, B.A., Nyström, L., Sundkvist, G., Lernmark, A., Ivarsson, S.A..(2003) Islet autoantibodies in cord blood from patients who developed type 1 diabetes mellitus at 15–30 years of age. *Autoimmunity* 36, 227 – 31.
- Schlosser, M., Koczwara, K., Kenk, H., Strebelow, M., Rjasanowski, I., Wassmuth, R., Achenbach, P., Ziegler, A.G., Bonifacio, E. (2005) In insulin-autoantibody-positive children from the general population, antibody affinity identifies those at high and low risk. *Diabetologia* 48, 1830 – 2.



# Medizym® IAA – Enzyme Immunoassay for the Determination of IgG Antibodies against Insulin (IAA)

## Antigen

The Medizym® IAA immunoassay is based on the use of recombinant human insulin.

## Calibration

The Medizym® IAA immunoassay is calibrated using an internal reference sample. Quantitative results are expressed in U/mL.

## Precision

The precision of test results was assessed by the determination of the intra- and interassay variation by the analysis of multiple samples with different antibody activities.

	INTRAASSAY PRECISION		INTERASSAY PRECISION	
	U/mL	CV (%)	U/mL	CV (%)
Sample 1	4.8	7.5	5.3	5.4
Sample 2	9.1	2.3	9.5	2.4
Sample 3	18.4	4.0	18.5	1.2

## Diagnostic Sensitivity and Specificity

Sensitivity and specificity were assessed by the analysis of 39 samples from patients with diabetes mellitus type 1 and 100 samples from unselected blood donors.

DIAGNOSTIC PERFORMANCE	
Sensitivity	77.0 %
Specificity	94.0 %





## Medizym® IAA

Enzyme immunoassay for the quantitative determination of IgG antibodies against insulin (IAA) in human serum

### HIGH QUALITY – MADE IN GERMANY

- Use of recombinant human insulin for a high specificity
- Ready-to-use (exception: wash buffer), color- and barcoded reagents
- Quality assured handling in routine laboratories
- Incubation at room temperature
- Quantitative determination of IgG antibodies
- Calibrated with an internal reference sample
- Results expressed in U/mL
- Excellent diagnostic sensitivity and specificity
- High precision within the measurement range
- CE marked
- Automatable

### Product Information

#### Medizym® IAA



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### Order Information

**Medizym® IAA**  
(96 Determinations)

**REF 3806**

