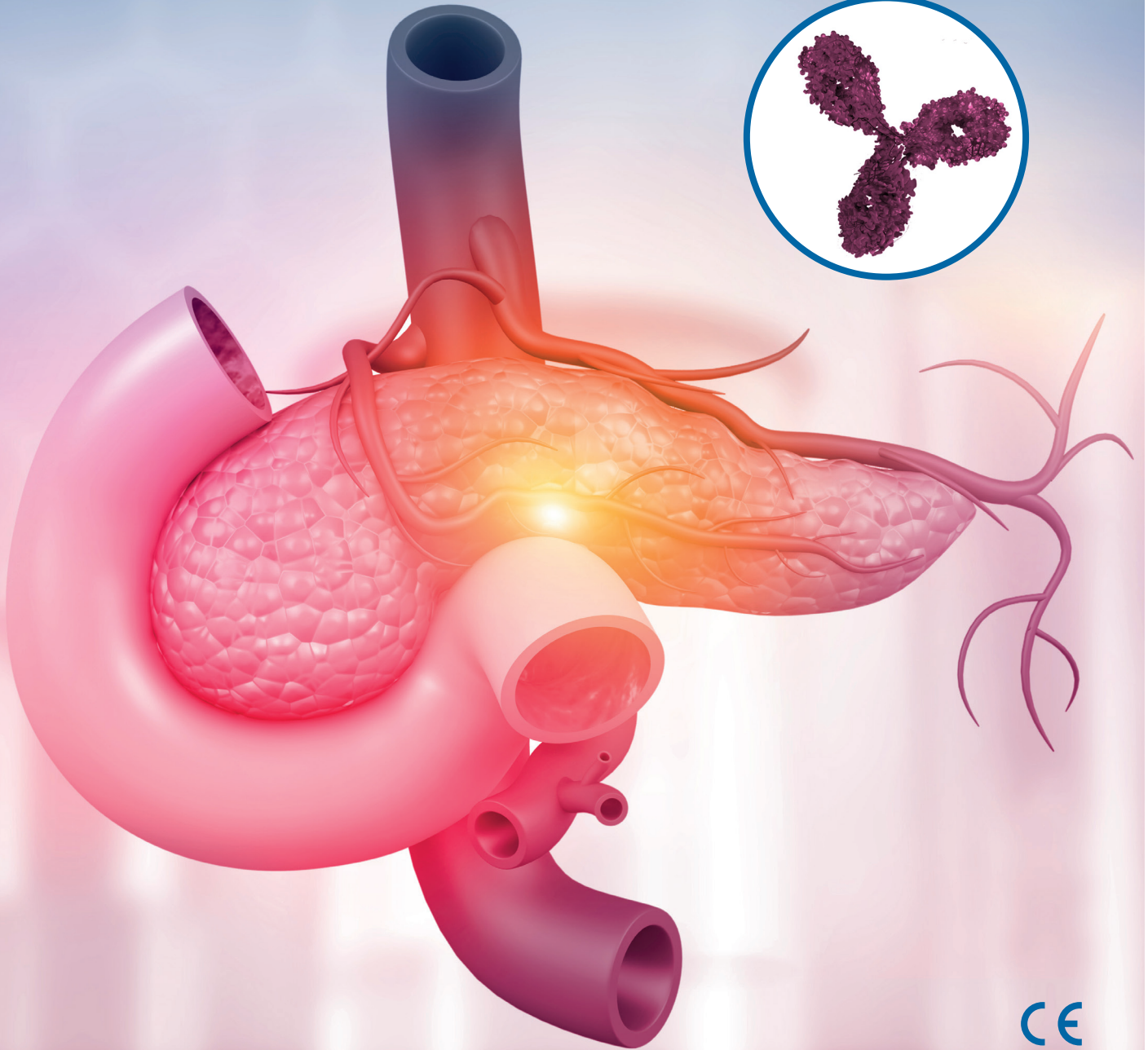
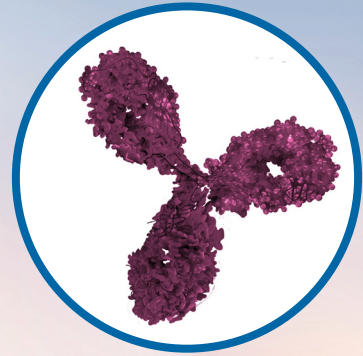
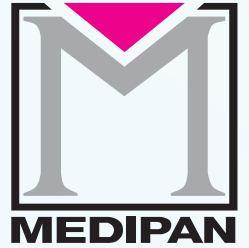


# CentAK® anti-IA<sub>2</sub> M

Radioimmunoassay for the quantitative determination of antibodies against protein tyrosine phosphatase (IA<sub>2</sub>)



## Product Highlights

- Serological marker for autoimmune diabetes mellitus type 1
- Excellent diagnostic efficiency with high sensitivity and specificity
- High precision within the measurement range

## YOUR RELIABLE PARTNER IN AUTOIMMUNE DIAGNOSTICS

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

# Antibodies against Protein Tyrosine Phosphatase

## 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 Tyrosine Phosphatase ( $IA_2$ )

Protein tyrosine phosphatase (insulinoma-associated antigen 2,  $IA_2$ ) is localized in the granules of pancreatic beta cells. Antibodies against  $IA_2$  can be detected in the majority of patients with diabetes mellitus type 1 and in a large number of individuals in the prediabetic phase. The appearance of antibodies against the protein tyrosine phosphatase  $IA_2$  is correlated with rapid progression of diabetes mellitus type 1.

### Publications

- Batstra, M.R., Anstoot, H.J., Herbrink, P. (2001) Prediction and diagnosis of type 1 diabetes using  $\beta$ -cell autoantibodies. Clin. Lab. 47, 497 – 507.
- Lan, M.S. et al. (1996)  $IA_2$ , a transmembrane protein of the protein tyrosine phosphatase family, is a major autoantigen in insulin-dependent diabetes mellitus. Proc. Natl. Acad. Sci. USA 93, 6367 – 70.
- Winter, W.E., Harris, N., Schatz, D. (2002) Immunological markers in the diagnosis and prediction of autoimmune Type 1a diabetes. Clinical Diabetes 20, 183 – 91.

# CentAK® anti-IA<sub>2</sub> M – Radioimmunoassay for the Determination of Antibodies against Protein Tyrosine Phosphatase (IA<sub>2</sub>)

## Tracer

The tracer of the CentAK® anti-IA<sub>2</sub> M radioimmunoassay is composed of recombinant human IA<sub>2</sub> conjugated to <sup>125</sup>Iodine.

## Calibration

The CentAK® anti-IA<sub>2</sub> M radioimmunoassay 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	0.8	10.4	0.9	18.5
Sample 2	5.8	4.2	6.1	3.0
Sample 3	24.7	2.6	24.8	2.0

## Diagnostic Sensitivity and Specificity

Sensitivity and specificity were assessed by the analysis of 42 samples from patients with diabetes mellitus type 1 and 41 samples from unselected blood donors.

	DIAGNOSTIC PERFORMANCE
Sensitivity	88 %
Specificity	95 %







## CentAK® anti-IA<sub>2</sub> M

Radioimmunoassay for the quantitative determination of antibodies against protein tyrosine phosphatase (IA<sub>2</sub>) in human serum

### HIGH QUALITY – MADE IN GERMANY

- Use of recombinant human protein tyrosine phosphatase (IA<sub>2</sub>)
- Quantitative determination of the antibody activity
- Results expressed in U/mL
- High diagnostic sensitivity and specificity
- High precision within the measurement range
- CE marked

### Product Information

#### CentAK® anti-IA<sub>2</sub> M



### Contact

Medipan GmbH

Ludwig-Erhard-Ring 3  
15827 Blankenfelde-Mahlow OT Dahlewitz  
Germany

Phone +49 (0) 33708 4417 0

Fax +49 (0) 33708 4417 25

info@medipan.de

www.medipan.de

### Order Information

**CentAK® anti-IA<sub>2</sub> M**  
(50 Determinations)

**REF 2050**

**CentAK® anti-IA<sub>2</sub> M**  
(100 Determinations)

**REF 2150**