

# Third National Health and Nutrition Examination Survey 1988–1994

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## Documentation, Codebook, and Frequencies

**Surplus Sera Laboratory Component:**  
Antibody to GAD65

**Survey Years:**  
**1988 to 1994**

**SAS Export File:**  
**SSGAD.XPT**



First Published: September 2006  
Last revised: N/A

## NHANES III Data Documentation

### Laboratory Assessment: Antibody to GAD65 (NHANES III Surplus Sera)

Years of Coverage: 1988–1994

First Published: September 2006

Last Revised: N/A

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<b>Component Description</b>	NHANES III stored sera were used to identify individuals at risk for developing autoimmune diabetes mellitus in adulthood. Measurements were made of glutamic acid decarboxylase (GAD65) and tyrosine phosphatase like protein (IA-2) autoantibodies in 2,100 sera from NHANES participants aged 40 or more years from the morning session who were fasting. Note: IA-2 antibodies will be released at a later date than GAD65.
<b>Eligible Sample</b>	Participants age 40 or more years from the morning session who were fasting (N=2,100)
<b>Description of Laboratory Methodology</b>	Autoantibodies to GAD 65 were detected in triplicate by immunobinding of serum with in vitro transcribed/translated recombinant 35S-[Met]-labeled recombinant human GAD65. The results are reported as an index based on the counts per minute of the positive and negative control serum used in each plate (index=sample cpm-negative control cpm/positive control cpm-negative control cpm) (1).
<b>Laboratory Quality Control and Monitoring</b>	The inter-assay coefficient of variation (CV) was 13.2% (n=7) and the intra-assay CV was 12.2% (n=11) (2). The GAD65 antibody assay has repeatedly performed very well in many proficiency workshops. Results of the proficiency workshops organized by the University of Florida in Gainesville (1995, 1996 and 1997), and the Diabetes Autoantibody Standardization Program (DASP, 2000, 2002, 2003), organized by WHO, the data were: 76-100% sensitivity, 90-100% specificity (100% specificity 3 times), and 100% validity for GAD65 autoantibodies (3).
<b>Data Processing and Editing</b>	Data was received after all the antibody testing was complete. The data were not edited. Data Access: All data are publicly available.
<b>Analytic Notes</b>	The cut-off point for positivity for the GAD65AA assay was an index of 0.069 (4) and was established as the 99th percentile of autoantibody

values calculated using 280 healthy control subjects, which have been described previously (2). The negative numbers are coded as being GAD65 AA negative. Fasting weights should be used when analyzing these data.

IA-2 antibody measurement will be released at a later date than GAD65.

## References

1. Pietropaolo M, Barinas-Mitchell E, Pietropaolo SL, et al. Evidence of islet cell autoimmunity in elderly patients with type 2 diabetes. *Diabetes* 49:32-38, 2000.
2. Pietropaolo, M., Peakman, M., Pietropaolo, S.L., Zanone, M.M., Foley, T.P., Becker, D.J., and Trucco, M. 1998. Combined analysis of GAD65 and ICA512(IA-2) autoantibodies in organ and non-organ specific autoimmune diseases confers high specificity for insulin-dependent diabetes mellitus. *J Autoimmun* 11:1-10.
3. Bingley PJ, Bonifacio E, Mueller PW, and Participating Laboratories 2003 Diabetes Antibody Standardization Program: First Assay Proficiency Evaluation. *Diabetes* 52:1128-1136.
4. Barinas-Mitchell E, Pietropaolo S, Zhang Y-J. et al. Islet cell autoimmunity in triethnic adult population of the third National Health and Nutrition Examination Survey. *Diabetes* 52:1293-1302, 2004.

## Locator Fields

**Title:** Antibody to GAD6

**Contact Number:** 1-866-441-NCHS

**Years of Content:** 1988-1994

**First Published:** September 2006

**Revised:** N/A

**Access Constraints:** None

**Use Constraints:** None

**Geographic Coverage:** National

**Subject:** Antibody to GAD6

**Record Source:** NHANES III (1988-1994)

**Survey Methodology:** NHANES III is a stratified multistage probability sample of the civilian non-institutionalized population of the U.S.

**Medium:**

**National Health and Nutrition Examination Survey  
Codebook for Data Production (1988-1994)  
(NHANES III)**

**Antibody to GAD65 (SSGAD)  
Person Level Data**

First Published: September 2006

Last Revised: N/A



<b>SEQN</b>	<b>Target</b>
	B(40 Yrs. to 150 Yrs.)
<b>Hard Edits</b>	<b>SAS Label</b>
	Respondent sequence number
<b>English Text:</b> Respondent sequence number.	
<b>English Instructions:</b>	

<b>GAPGAD65</b>	<b>Target</b>			
	B(40 Yrs. to 150 Yrs.)			
<b>Hard Edits</b>	<b>SAS Label</b>			
	GAD65 Antibody			
<b>English Text:</b> Test result of the 65-kDa isoform of glutamic acid decarboxylase (GAD65) expressed as an index (index=sample cpm - negative control cpm/positive control cpm).				
<b>English Instructions:</b>				
<b>Code or Value</b>	<b>Description</b>	<b>Count</b>	<b>Cumulative</b>	<b>Skip to Item</b>
-0.036 to 1.313	Range of Values	2100	2100	
.	Missing	0	2100	