

# National Health and Nutrition Examination Survey 2003-2004

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## Documentation, Codebook, and Frequencies

**Laboratory Component:**  
Vitamin B6

**Survey Years:**  
**2003 to 2004**

**SAS Export File:**  
**L43\_C.XPT**



First Release: February 2007  
Last Revised: N/A

# NHANES 2003–2004 Data Documentation

## Laboratory Assessment: Lab 43 – Vitamin B6 (Pyridoxal 5'-phosphate)

Years of Coverage: 2003–2004

First Published: February 2007

Last Revised: N/A

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### Component Description

The objectives of this component are: 1) to provide data for monitoring secular trends in measures of nutritional status in the U.S. population; 2) to evaluate the effect of people's habits and behaviors such as physical activity and the use of alcohol, tobacco, and dietary supplements on people's nutritional status; and 3) to evaluate the effect of changes in nutrition and public health policies including welfare reform legislation, food fortification policy, and child nutrition programs on the nutritional status of the U.S. population.

These data will be used to estimate deficiencies and toxicities of specific nutrients in the population and subgroups, to provide population reference data, and to estimate the contribution of diet, supplements, and other factors to serum levels of nutrients. Data will be used for research to further define nutrient requirements as well as optimal levels for disease prevention and health promotion.

### Eligible Sample

Participants aged 1 year and older were tested.

### Description of Laboratory Methodology

Pyridoxal 5'- phosphate (PLP) is the biologically active form of the vitamin B6. Vitamin B6 is involved in numerous metabolic pathways as an enzyme cofactor (1-3). Homocysteine (HCY), a risk factor for cardiovascular and other diseases (4, 5), is converted to cysteine by PLP-dependent transsulfuration enzymes (6). A major cause of homocysteinemia is insufficient intake of vitamin B6, vitamin B12, and folic acid, all of which are also necessary for HCY metabolism (7). Clinical studies suggest that vitamin B6 is independently associated with increased risk for cardiovascular disease (8-10). Recent studies have shown that plasma PLP levels are significantly decreased in other pathological conditions, including rheumatoid arthritis (11). High tHcy and low vitamin B6 plasma levels are associated with an increased risk for deep venous thrombosis (DVT) independent of other established risk factors for DVT. The association of low vitamin B6 levels with the risk for DVT is also independent of the tHCY levels (12).

Testing for Vitamin B6 (Pyridoxal 5'-phosphate) began in 2003.

A detailed description of the laboratory procedures can be found at the NHANES web site.

### **Laboratory Quality Control and Monitoring**

The NHANES quality control and quality assurance protocols (QA/QC) meet the 1988 Clinical Laboratory Improvement Act mandates. A detailed quality control and quality assurance instruction was discussed in the NHANES Laboratory/Medical Technologists Procedures Manual (LPM). Read the LABDOC file for detailed QA/QC protocols.

A detailed description of the quality assurance and quality control procedures can be found at the NHANES web site.

### **Data Processing and Editing**

Specimens were processed, stored and shipped to the AntiCancer, Inc. in San Diego, California. Detailed specimen collection and processing instructions was discussed in the NHANES LPM. Read the LABDOC file for detailed data processing and editing protocols. The analytical methods were described in the Description of the Laboratory Methodology section.

There was no top coding in this file.

Detailed instructions on specimen collection and processing can be found at NHANES web site.

### **Analytic Notes**

The analysis of NHANES 2003-2004 laboratory data must be conducted with the key survey design and basic demographic variables. The NHANES 2003-2004 Household Questionnaire Data Files contain demographic data, health indicators, and other related information collected during household interviews. They also contain all survey design variables and sample weights for these age groups. The phlebotomy file includes auxiliary information such as the conditions precluding venipuncture. The household questionnaire and phlebotomy files may be linked to the laboratory data file using the unique survey participant identifier SEQN.

Please refer to the Analytic Guidelines for further details on the use of sample weights.

## References

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4. Schnyder G, Roffi M, Pin R, Flammer Y, Lange H, Eberli FR, et al. Decreased rate of coronary restenosis after lowering of plasma homocysteine levels. *N Engl J Med* 2001; 345: 1593-600.
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12. Cattaneo, M., Lombardi, R., Bucciarelli, A.L., Manrucci, P.M.. Low Plasma Levels of Vitamin B6 are Independently Associated with a Heightened Risk of Deep-Vin Thrombosis. *Circulation* 2001;104: 2442- 2446.

## Locator Fields

**Title:** Vitamin B6

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

**Years of Content:** 2003–2004

**First Published:** February 2007

**Revised:** N/A

**Access Constraints:** None

**Use Constraints:** None

**Geographic Coverage:** National

**Subject:** Vitamin B<sub>6</sub>

**Record Source:** NHANES 2003–2004

**Survey Methodology:** NHANES 2003–2004 is a stratified multistage probability sample of the civilian non-institutionalized population of the U.S.

**Medium:** NHANES Web site; SAS transport files

# National Health and Nutrition Examination Survey Codebook for Data Production (2003-2004)

## Vitamin B6 (L43\_C) Person Level Data

First Published: February 2007

Last Revised: N/A



<b>SEQN</b>	<b>Target</b>
	B(1 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>LBXVB6</b>	<b>Target</b>
	B(1 Yrs. to 150 Yrs.)
<b>Hard Edits</b>	<b>SAS Label</b>
	Vitamin B6(Pyridoxal 5'-phosphate)nmol/L
<b>English Text:</b> Vitamin B6 (Pyridoxal 5'-phosphate) test results (nmol/L).	
<b>English Instructions:</b>	

Code or Value	Description	Count	Cumulative	Skip to Item
10 to 962	Range of Values	6862	6862	
7.1	Fill Value of Limit of Detection	960	7822	
.	Missing	1357	9179	