National Health and Nutrition Examination Survey 2003-2004

Documentation, Codebook, and Frequencies

MEC Laboratory Component: Toxoplasma (IgG) and Toxoplasma (IgM)

Survey Years:
2003 to 2004

SAS Export File:
L17_C.XPT

January 2006

NHANES 2003–2004 Data Documentation

Laboratory Assessment: Lab 17 – Toxoplasma (IgG) and Toxoplasma (IgM)

Years of Coverage: 2003–2004 **First Published:** January 2006 **Last Revised:** N/A

Component Description

Serologic tests are available to determine who has become infected with toxoplasmosis. *Toxoplasma*-specific IgG antibodies are detectable 1–3 weeks after infection and remain detectable for the life of the individual. *Toxoplasma*-specific IgM antibodies are also detectable 1–3 weeks after infection but generally decline to nil by 1 year after infection. The presence of both IgG and IgM is evidence for infection within the last year. The presence of IgG antibody without IgM is considered indicative of past infection. All eligible participants were tested for serum IgG, and positive sera were tested for the presence of IgM. These data will be used to estimate the prevalence of toxoplasmosis in the U.S. and to determine whether the rates are changing over time. *Toxoplasma* IgG antibody was measured in NHANES III with an overall prevalence of 22.5%.

Eligible Sample

Participants aged 6–49 years were tested.

Description of Laboratory Methodology

Toxoplasma (IgG)

The presence and quantity of IgG antibodies to *Toxoplasma gondii* in the test sample were determined by performing an EIA test with *Toxoplasma* antigen. A standard curve was constructed using optical density readings from positive control sera wells; these readings were calibrated to World Health Organization (WHO) Toxo 60 serum and read as International Units (IU/mL). Those test samples with results below 10 IU/mL indicated a non-significant level of antibody; thus, they were considered to be negative, indicating no infection. Those test samples with results greater than 9 IU/mL were considered to be positive, indicating *Toxoplasma* infection at some undetermined time.

Toxoplasma (IgM)

The presence and quantity of IgM antibodies to *Toxoplasma gondii* in the test sample were determined by performing an IgM-capture enzyme immunoassay (EIA) test with *Toxoplasma* antigen. Results are obtained by dividing the optical density of the test sample well by the optical density of the positive standard well and multiplying the result by 100.

Those test samples exhibiting ratios below 2.0 indicated a non-significant level of IgM antibody according to this technique; thus, they were considered to be negative for IgM antibodies. Those test samples with ratios equal to or greater than 2.0 were considered to be IgM positive, indicating either *Toxoplasma* infection within the last 2 years or a false-positive reaction.

There were no changes to equipment, lab site, or lab method from the previous 2 years. Measurements of Toxoplasma (Dye), Toxoplasma Differential Agglutination, and Toxoplasma (Avidity) were dropped from the previous 2 years of NHANES.

A detailed description of the laboratory method used can be found on the NHANES website.

Laboratory Quality Control and Monitoring

The NHANES quality control and quality assurance protocols (QA/QC) meet the 1988 Clinical Laboratory Improvement Act mandates. Detailed quality control and quality assurance instructions are 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 on the NHANES website.

Data Processing and Editing

Blood specimens were processed, stored, and shipped to Division of Parasitic Diseases, National Center for Infectious Diseases, Centers for Disease Control and Prevention, Atlanta, GA for analysis. Detailed specimen collection and processing instructions are discussed in the NHANES LPM. Read the LABDOC file for detailed data processing and editing protocols. The analytical methods are described in the Description of the Laboratory Methodology section.

This file contains no top coding, fill values, or minimal detectable limits.

Detailed instructions on specimen collection and processing can be found on the NHANES website.

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.

Toxoplasmosis antibody: These data are released as International Units (IU). Though the data are released as individual units, the data should be analyzed qualitatively and categorized as positive when IU ≥10 and negative when IU = 0–9 IU.

LBXT01
This test was performed on all examinees aged 6–49 years.

LBXT02
This test was performed only if LBXT01 ≥ 10.

References

N/A

Locator Fields

Title: Toxoplasma (IgG) and Toxoplasma (IgM)

Contact Number: 1-866-441-NCHS

Years of Content: 2003–2004

First Published: January 2006

Revised: N/A

Access Constraints: None

Use Constraints: None

Geographic Coverage: National

Subject: Toxoplasma (IgG) and Toxoplasma (IgM)

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)

Toxoplasma (IgG) and Toxoplasma (IgM) (L17_C)
Person Level Data

April 2006

SEQN	Target
	B(6 Yrs. to 49 Yrs.)
Hard Edits	**SAS Label**
	Respondent sequence number
English Text: Respondent sequence number.	
English Instructions:	

LBXTO1	Target
	B(6 Yrs. to 49 Yrs.)
Hard Edits	**SAS Label**
	Toxoplasma (IgG)
English Text: Toxoplasma (IgG)	
English Instructions:	

Code or Value	Description	Count	Cumulative	Skip to Item
0 to 240	Range of Values	5120	5120	
.	Missing	535	5655	

LBXTO2	Target
	B(6 Yrs. to 49 Yrs.)
Hard Edits	**SAS Label**
	Toxoplasma (IgM)
English Text: Toxoplasma (IgM)	
English Instructions:	

Code or Value	Description	Count	Cumulative	Skip to Item
0 to 3	Range of Values	432	432	
.	Missing	5223	5655	