



The BIOCARD Study

Biomarkers of Cognitive Decline
Among Normal Individuals

Blood NTK
Limited Dataset

Glossary of Terms

Term	Description
Allowable Codes	codes (and their meanings) allowed to be values for that variable
Audit Findings	error rates based on BIOCARD or NIH phase audits
	error rates are calculated as number of errors / total number of variables examined
Baseline visit	date admitted to NIH phase of BIOCARD study <i>[Note: some data may have been collected prior to this date]</i>
Collection	when the variable information was collected (i.e., Baseline, Follow-up)
Comments	further information about the variable not covered in the above fields
Data Type	numeric or character <i>[Note: Dates are numeric data]</i>
	numeric or character classifications are strictly related to how the data are stored and not how the data should be analyzed
JHU phase	the study phase at JHU from 2009 - present
Missing OK If	instances (such as skips) or reasons why a blank or missing value is acceptable
NA	not applicable for this variable
NIH / NIH phase	the study phase that was performed at the NIH from 1995-2005
Question Text	the question as it appears on the NACC or BIOCARD data collection forms
Short Description	a short explanation of what the variable means
Source	the name of the NACC form, BIOCARD form, or NIH dataset containing the variable information (or “DERIVED” if the variable was derived) and the variable question number located on the form or in the dataset, if applicable
Unknown Code	the codes for the “unknown”, “don’t know”, or missing values for the variable
Variable Name	the name of the variable in the provided dataset <i>[Note: Variables will follow the NACC naming scheme as closely as possible]</i>

Acronyms and Definitions

AD	Alzheimer’s Disease	JHU	The Johns Hopkins University
CDR	Clinical Dementia Rating	MCI	Mild Cognitive Impairment
CERAD	Consortium to Establish a Registry for Alzheimer’s Disease	MMSE	Mini-Mental State Examination
CNS	Central Nervous System	NACC	National Alzheimer’s Coordinating Center
CSF	Cerebrospinal Fluid	NIA	National Institute on Aging
CVD	Cardiovascular Disease	NINDS	National Institute of Neurological Disorders and Stroke
CVLT	California Verbal Learning Test	NPI-Q	Neuropsychiatric Inventory Questionnaire
FAQ	Functional Assessment Questionnaire	UPDRS	Unified Parkinson’s Disease Rating Scale
FTD	Frontotemporal Degenerations	WAIS	Wechsler Adult Intelligence Scale
GDS	Geriatric Depression Scale	WMS	Wechsler Memory Scale

Blood NTK Limited Dataset Characteristics

Number of Vars: 37

Order of variables

1) JHUANONID	<i>Participant ID Anonymized by JHU</i>
2) VISITNO	<i>Blood NTK visit number</i>
3) Blood_NTK_Data_MoFromBL	<i>Months since baseline</i>
4) BIRTHYEAR	<i>4-digit year</i>
5) PTAU181	<i>Phosphorylated Tau 181 pg/mL</i>
6) AB42	<i>Amyloid Beta 42 pg/mL</i>
7) AB40	<i>Amyloid Beta 40 pg/mL</i>
8) AB42AB40	<i>Amyloid Beta 42/ Amyloid Beta 40</i>
9) NFL	<i>Neurofilament Light</i>
10) YKL40	<i>Tyrosine (Y), Lysine (K), Leucine (L) - 40</i>
11) sTREM2	<i>Triggering receptor expressed on myeloid cells 2</i>
12) GFAR_DR	<i>Glial Fibrillary Acidic Protein</i>
13) PTAU181_AB40	<i>Phosphorylated Tau 181 / Amyloid Beta 40</i>
14) PTAU181_AB42	<i>Phosphorylated Tau 181 / Amyloid Beta 42</i>
15) PTAU181_AB42AB40	<i>Ratio of Phosphorylated Tau 181 /(Amyloid Beta 42/ Amyloid Beta 40)</i>
16) PTAU181_zscore	<i>Z-score of Phosphorylated Tau 181 pg/mL</i>
17) AB42_zscore	<i>Z-score of Amyloid Beta 42 pg/mL</i>
18) AB40_zscore	<i>Z-score of Amyloid Beta 40 pg/mL</i>
19) AB42AB40_zscore	<i>Z-score of Amyloid Beta 42/ Amyloid Beta 40</i>
20) NFL_zscore	<i>Z-score of NFL pg/ml</i>
21) YKL40_zscore	<i>Z-score of YKL40 pg/ml</i>
22) sTREM2_zscore	<i>Z-score of sTREM2 pg/ml</i>
23) GFAR_DR_zscore	<i>Z-sore of GFAP pg/ml</i>
24) PTAU181_AB40_zscore	<i>Z-score of Phosphorylated Tau 181 / Amyloid Beta 40</i>
25) PTAU181_AB42_zscore	<i>Z-score of Phosphorylated Tau 181 / Amyloid Beta 42</i>
26) PTAU181_AB42AB40_zscore	<i>Ratio of Phosphorylated Tau 181 /(Amyloid Beta 42/ Amyloid Beta 40) Z-score</i>

Blood NTK Limited Dataset Characteristics

Number of Vars: 37

Order of variables

27) PTAU181_outlier	<i>Phosphorylated Tau 181 pg/mL outlier</i>
28) AB42_outlier	<i>Amyloid Beta 42 pg/mL outlier</i>
29) AB40_outlier	<i>Amyloid Beta 40 pg/mL outlier</i>
30) AB42AB40_outlier	<i>Amyloid Beta 42/ Amyloid Beta 40 outlier</i>
31) NFL_outlier	<i>NfL pg/ml outlier</i>
32) YKL40_outlier	<i>YKL40 pg/ml outlier</i>
33) sTREM2_outlier	<i>sTREM2 pg/ml outlier</i>
34) GFAR_DR_outlier	<i>GFAP pg/ml outlier</i>
35) PTAU181_AB40_outlier	<i>Phosphorylated Tau 181 / Amyloid Beta 40 outlier</i>
36) PTAU181_AB42_outlier	<i>Phosphorylated Tau 181 / Amyloid Beta 42 outlier</i>
37) PTAU181_AB42AB40_outlier	<i>Ratio of Phosphorylated Tau 181 /(Amyloid Beta 42/ Amyloid Beta 40) outlier</i>

1) Variable Name **JHUANONID**

Short Description Participant ID Anonymized by JHU

Source NA

Question Text NA

Time of Collection Baseline

Data Type Character

Allowable Codes Allowable Codes JHU + 6 digit number

Missing OK if NA

Audit Findings NA

Comments None

2) Variable Name **VISITNO**

Short Description Blood NTK visit number

Source MRI

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes JHU visit: 101, 102, 103, 104, 1XX where XX is from 01 to 99

Visit number 999 used for all participants that have died before a 101 visit for forms: A4, A5, A5a, B1, B2, B3, B3a, B8, B9, and D1. For participants that are alive, an A5 may have a 999 visit number to capture medical data acquired during the NIH phase of the study.

Missing OK if NA

Audit Findings No NIH or JHU audit

Comments Visit when Blood NTK was completed

3) Variable Name **Blood_NTK_Data_MoFromBL**

Short Description Months since baseline

Source DERIVED

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = 0
Max = 999

Missing OK if NA

Audit Findings NA

Comments Calculated as months between the baseline start date and the recorded Blood NTK date.

4) Variable Name **BIRTHYEAR**

Short Description 4-digit year

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = 1913
Max = TBD

Missing OK if NA

Audit Findings NA

Comments None

5) Variable Name **PTAU181**

Short Description Phosphorylated Tau 181 pg/mL

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = 0.05
Max = 40.0

Missing OK if NA

Audit Findings NA

Comments None

6) Variable Name **AB42**

Short Description Amyloid Beta 42 pg/mL

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = 1
Max = 100

Missing OK if NA

Audit Findings NA

Comments None

7) Variable Name **AB40**

Short Description Amyloid Beta 40 pg/mL

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = 5
Max = 1000

Missing OK if NA

Audit Findings NA

Comments None

8) Variable Name **AB42AB40**

Short Description Amyloid Beta 42/ Amyloid Beta 40

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = 0.001
Max = 0.3

Missing OK if NA

Audit Findings NA

Comments None

9) Variable Name **NFL**

Short Description Neurofilament Light

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = 0.2
Max = 50

Missing OK if NA

Audit Findings NA

Comments None

10) Variable Name **YKL40**

Short Description Tyrosine (Y), Lysine (K), Leucine (L) - 40

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = 10
Max = 2500000

Missing OK if NA

Audit Findings NA

Comments None

11) Variable Name **sTREM2**

Short Description Triggering receptor expressed on myeloid cells 2

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = 5
Max = 100000

Missing OK if NA

Audit Findings NA

Comments None

12) Variable Name **GFAR_DR**

Short Description Glial Fibrillary Acidic Protein

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = 5
Max = 1000

Missing OK if NA

Audit Findings NA

Comments None

13) Variable Name **PTAU181_AB40**

Short Description Phosphorylated Tau 181 / Amyloid Beta 40

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = 0.0001
Max = 0.2

Missing OK if NA

Audit Findings NA

Comments None

14) Variable Name **PTAU181_AB42**

Short Description Phosphorylated Tau 181 / Amyloid Beta 42

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = 0.001
Max = 1

Missing OK if NA

Audit Findings NA

Comments None

15) Variable Name **PTAU181_AB42AB40**

Short Description Ratio of Phosphorylated Tau 181 /(Amyloid Beta 42/ Amyloid Beta 4

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = 0.1
Max = 200

Missing OK if NA

Audit Findings NA

Comments None

16) Variable Name **PTAU181_zscore**

Short Description Z-score of Phosphorylated Tau 181 pg/mL

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = ± 10
Max = ± 10

Missing OK if NA

Audit Findings NA

Comments None

17) Variable Name **AB42_zscore**

Short Description Z-score of Amyloid Beta 42 pg/mL

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = ± 10
Max = ± 10

Missing OK if NA

Audit Findings NA

Comments None

18) Variable Name **AB40_zscore**

Short Description Z-score of Amyloid Beta 40 pg/mL

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = ± 10
Max = ± 10

Missing OK if NA

Audit Findings NA

Comments None

19) Variable Name **AB42AB40_zscore**

Short Description Z-score of Amyloid Beta 42/ Amyloid Beta 40

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = ± 10
Max = ± 10

Missing OK if NA

Audit Findings NA

Comments None

20) Variable Name **NFL_zscore**

Short Description Z-score of NFL pg/ml

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = ± 10
Max = ± 10

Missing OK if NA

Audit Findings NA

Comments None

21) Variable Name **YKL40_zscore**

Short Description Z-score of YKL40 pg/ml

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = ± 10
Max = ± 10

Missing OK if NA

Audit Findings NA

Comments None

22) Variable Name **sTREM2_zscore**

Short Description Z-score of sTREM2 pg/ml

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = ± 10
Max = ± 10

Missing OK if NA

Audit Findings NA

Comments None

23) Variable Name **GFAR_DR_zscore**

Short Description Z-score of GFAP pg/ml

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = ± 10
Max = ± 10

Missing OK if NA

Audit Findings NA

Comments None

24) Variable Name **PTAU181_AB40_zscore**

Short Description Z-score of Phosphorylated Tau 181 / Amyloid Beta 40

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = ± 10
Max = ± 10

Missing OK if NA

Audit Findings NA

Comments None

25) Variable Name **PTAU181_AB42_zscore**

Short Description Z-score of Phosphorylated Tau 181 / Amyloid Beta 42

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = ± 10
Max = ± 10

Missing OK if NA

Audit Findings NA

Comments None

26) Variable Name **PTAU181_AB42AB40_zscore**

Short Description Ratio of Phosphorylated Tau 181 /(Amyloid Beta 42/ Amyloid Beta 4

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = ± 10
Max = ± 10

Missing OK if NA

Audit Findings NA

Comments None

27) Variable Name **PTAU181_outlier**

Short Description Phosphorylated Tau 181 pg/mL outlier

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = TBD
Max = TBD

Missing OK if NA

Audit Findings NA

Comments None

28) Variable Name **AB42_outlier**

Short Description Amyloid Beta 42 pg/mL outlier

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = TBD
Max = TBD

Missing OK if NA

Audit Findings NA

Comments None

29) Variable Name **AB40_outlier**

Short Description Amyloid Beta 40 pg/mL outlier

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = TBD
Max = TBD

Missing OK if NA

Audit Findings NA

Comments None

30) Variable Name **AB42AB40_outlier**

Short Description Amyloid Beta 42/ Amyloid Beta 40 outlier

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = TBD
Max = TBD

Missing OK if NA

Audit Findings NA

Comments None

31) Variable Name **NFL_outlier**

Short Description NfL pg/ml outlier

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = TBD
Max = TBD

Missing OK if NA

Audit Findings NA

Comments None

32) Variable Name **YKL40_outlier**

Short Description YKL40 pg/ml outlier

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = TBD
Max = TBD

Missing OK if NA

Audit Findings NA

Comments None

33) Variable Name **sTREM2_outlier**

Short Description sTREM2 pg/ml outlier

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = TBD
Max = TBD

Missing OK if NA

Audit Findings NA

Comments None

34) Variable Name **GFAR_DR_outlier**

Short Description GFAP pg/ml outlier

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = TBD
Max = TBD

Missing OK if NA

Audit Findings NA

Comments None

35) Variable Name **PTAU181_AB40_outlier**

Short Description Phosphorylated Tau 181 / Amyloid Beta 40 outlier

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = TBD
Max = TBD

Missing OK if NA

Audit Findings NA

Comments None

36) Variable Name **PTAU181_AB42_outlier**

Short Description Phosphorylated Tau 181 / Amyloid Beta 42 outlier

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = TBD
Max = TBD

Missing OK if NA

Audit Findings NA

Comments None

37) Variable Name **PTAU181_AB42AB40_outlier**

Short Description Ratio of Phosphorylated Tau 181 /(Amyloid Beta 42/ Amyloid Beta 4

Source Blood NTK

Question Text NA

Time of Collection Baseline and Follow-up

Data Type Numeric

Allowable Codes Min = TBD
Max = TBD

Missing OK if NA

Audit Findings NA

Comments None