



January 2023

NCRAD Can Provide Plasma Biomarkers!

With the establishment of the Biomarker Assay Laboratory (BAL), NCRAD has expanded our services to include processing of well-established fluid-based biomarkers and is providing more support to research studies. The goal is to ensure standardized processing and reliable research biomarker results. This approach allows for longitudinal quality monitoring and consistent delivery of results over time, as well as the opportunity for cross-laboratory comparability studies. The key plasma biomarker assays currently available include:

Assay Kits	Platform	Biomarkers
NF-Light Advantage Kit	Quanterix Simoa HD-X	NfL
Ptau 181 Advantage Kit	Quanterix Simoa HD-X	Ptau181
Neurology 2-Plex B (N2PB)	Quanterix Simoa HD-X	NfL, GFAP
Neurology 4-Plex E (N4PE)	Quanterix Simoa HD-X	NfL, GFAP, Abeta 40, Abeta 42
Lumipulse G Abeta 40	Fujirebio Lumipulse	Abeta 40
Lumipulse G Abeta 42	Fujirebio Lumipulse	Abeta 42

All assays processed at the BAL provide research-based results only that are returned to the contributing center.

While plasma samples collected through the Alzheimer's Disease Centers Fluid Biomarker (ADCFB) Initiative will routinely have biomarker data generated, we know that centers may have previously collected ADRC participant plasma samples stored locally. **If you have previously collected plasma samples or are interested in prospectively collecting plasma samples at your center, you may request a quote and/or letter of support for the above assays through NCRAD.** Please complete the following [form](#). For more information on the BAL, please visit our website [here](#) and contact the BAL Coordinator, Clairisa Stayton (cbstayto@iu.edu), with any questions.

Annual Call Update

Historically, we have scheduled an annual thirty-minute call with center members to review the previous year's samples received, distributions, and new initiatives taking place at each site. In the interest of reducing Zoom meetings, we have replaced the annual call with a detailed email that will include the Sample Distribution Report, as well as our typical

updates. **If your Center would prefer to hold a call with NCRAD, please feel free to reach out to Stephanie Steidel (ssteidel@iu.edu) to schedule a time.**

Annual Sample Distribution Reports


Our annual Sample Distribution Reports are designed to help your Center easily document your contributions to central sample banking efforts encouraged by NIA. Reports are sent out every year to the Center Director. Please contact Stephanie Steidel (ssteidel@iu.edu) if you would like a copy sent directly to others as well.

An example report is provided on the next page. To provide the most comprehensive summary of the wide range of samples we are receiving from the ADRCs, the Sample Distribution Report summarizes the number of subjects with each sample type provided by your site as part of initiatives banking samples at NCRAD. This summary encompasses 2022 and overall. For example, a Center may send samples as part of the ADRC, ADNI, and AGMP initiatives. The report would show the number of subjects with DNA, plasma, serum, stool, RNA and PBMC samples in each study. Note that the number of subjects shown on the report is a count of unique individuals with each sample type within a study. Many studies collect longitudinal samples, and these will show as a single subject, not number of visits.

The annual report also summarizes how many samples contributed by your site are requested by researchers. The report shows the total number of aliquots distributed to researchers from samples contributed by your center. We report aliquots for both 2022 and overall. This is a total count of aliquots distributed and is not restricted to unique subjects. Samples from the same subject may be requested by more than one investigator. Please note, this count does not reflect the samples that were returned to the contributing site as their one free aliquot.

Our summary report also provides the number of unique investigators that have requested samples contributed by your center. We provide this information for 2022 and in a cumulative form across all years. Finally, all NIH grants that were supported by the samples contributed by your site are listed. Those grants in blue font supported 2022 distributions.

Please contact Stephanie Steidel (ssteidel@iu.edu) for a custom report with specific date ranges.



Sample Distribution Report

Example University
Date Range: 1/1/2022 to 12/31/2022


Unique Subjects Received (Date Range/Overall)

Study	Buffy Coat	Cell Line	DNA	PBMC	Plasma	RBC	RNA	STOOL	WBLD
ADC	0/93	0/0	0/1130	0/0	0/0	0/0	0/0	0/0	0/0
ADCFB	16/238	0/0	0/0	0/105	16/238	0/0	0/0	0/0	0/0
ADNI	0/4	0/8	0/6	0/0	0/0	0/0	0/4	0/0	0/0
ADNI-3	0/15	0/10	0/15	0/13	0/0	0/15	0/15	0/0	0/0
AGMP	0/0	0/0	0/0	0/0	0/0	0/0	0/0	4/52	4/51
Total	16/350	0/18	0/1151	0/118	16/238	0/15	0/19	4/52	4/51

Aliquots Distributed (Date Range/Overall)

Study	Cell Line	DNA	Plasma	RBC	Stool	WBLD RNA	Whole Blood
ADC	0/0	0/2164	0/44	0/0	0/0	0/0	0/0
ADCFB	0/0	0/6	0/4	0/0	0/0	0/0	0/0
ADNI	0/1	0/44	0/0	0/0	0/0	0/1	0/0
ADNI-3	0/0	0/26	0/0	0/11	0/0	0/0	0/0
AGMP	0/0	0/0	0/0	0/0	0/39	0/0	0/38
Total	0/1	0/2240	0/48	0/11	0/39	0/1	0/38

Investigators Receiving Samples (Date Range/Overall): 3/30
Number of NIH Grants Supported (Date Range/Overall): 4/23



Sample Distribution Report

Example University
Date Range: 1/1/2022 to 12/31/2022

NIH Grants Supported*

- R01-AG039700
- U01-AG006781
- U01-AG024904
- U19-AG063744
- R01-AG044546
- R01-AG067476
- R43-AG063589
- RC2-AG036535
- U01-AG066767
- U19-AG024904
- R01-AG016208
- RC2-AG036528
- U01-AG049508
- U01-AG051412
- U01-AG062943
- U24-AG021882
- R01-AG027224
- R01-AG064614
- R41-AG066328
- [U01-AG032984](#)
- [U01-AG051406](#)
- [U01-AG057659](#)
- [U24-AG021886](#)

*Blue indicates grant is associated with a distribution within date range.

ADSP Releases Additional 19K Whole Genomes via NIAGADS DSS

On October 6, 2022, the Alzheimer's Disease Sequencing Project (ADSP) released a new dataset comprised of 19,456 newly sequenced genomes together with joint genotype calls totaling 36,361 genomes with previously released genomes. The data release includes sequencing reads in the CRAM file format, individual sample genotype calls in the genomic Variant Call Format (gVCF), and a preview project-level genotype call dataset in the VCF format across all samples, all generated by the [Genome Center for Alzheimer's Disease \(GCAD\)](#). The project-level VCF is provided as a preview to the full ADSP quality control that will be released in the next few months.

Participants in this data release were recruited from Alzheimer's Disease (AD) and AD-related dementia (ADRD) studies from ethnically diverse populations (35,569 unique subjects – 5,218 African Ancestry, 2,791 Asian, 10,398 Hispanic, 16,191 Non-Hispanic White, and 971 Other/Unknown) as part of the [ADSP Follow Up Study \(FUS\)](#) to expand the diversity of ancestries that are included in the ADSP's sequencing and analysis. This effort will aid the identification of both shared and ancestry-specific genetic risk and protective factors for Alzheimer's Disease and Related Dementias (AD/ADRD) across populations.

Also included in this dataset is the first data release from the [ADSP Phenotype Harmonization Consortium \(ADSP-PHC\)](#). The goal of the ADSP-PHC is to harmonize the rich endophenotype data

across cohort studies within the ADSP to enable modern genomic analyses of AD/ADRD. This first release includes a subset of harmonized phenotypes from eight ADSP cohorts with whole genome sequence data including cognition, fluid biomarker, and neuropathology domains. The ADSP-PHC will continue adding in more cohorts and additional phenotypic domains in future releases. The next release will include neuroimaging and vascular risk factors in addition to those noted above.

The dataset was released via the National Institute on Aging Genetics of Alzheimer's Disease Data Storage Site (NIAGADS) Data Sharing Service (DSS). More details about the dataset can be found on the [NG00067 dataset](#) web page. Information on how to submit a Data Access Request for ADSP data can be found on the [Application Instructions web page](#).

Other datasets now available at <https://www.niagads.org/datasets>

[NG00127](#)

A longitudinal study of Alzheimer Disease and other dementing illnesses – KnightADRC GWAS

[NG00126](#)

A fast and robust strategy to remove variant level artifacts in Alzheimer's Disease Sequencing Project data

[NG00117](#)

NCRAD Families GWAS