NCRAD

June 2023

Plasma Biomarkers at NCRAD

With the establishment of the Biomarker Assay Laboratory (BAL), NCRAD is running well-established, commercially available, fluid-based biomarkers to support research studies. Plasma assays currently available in the BAL:

Quanterix Simoa HD-X **(Research Use Only)**

- Nf-Light Advantage Kit
- pTau 181 v2 Advantage Kit
- Neurology 2 Plex B Advantage Kit
  - NfL, GFAP
- Neurology 4 Plex E Advantage Kit
  - NfL, GFAP, Abeta 40, Abeta 42

Fujirebio Lumipulse **(Research Use Only)**

- Lumipulse G β-Amyloid 1-42 Kit
- Lumipulse G β-Amyloid 1-40 Kit

All assays processed at the BAL provide research-based results only that are returned to the contributing center. For centers participating in the Alzheimer's Disease Centers Fluid Biomarker (ADCFB) Initiative, the latest round of biomarker data has been made available at NACC.

While plasma samples collected through the ADCFB Initiative will routinely have biomarker data generated, we know that centers may have other plasma samples stored locally.

If you have historical ADRC plasma samples or are interested in prospectively collecting plasma samples from ADRC participants at your center and would like to use the BAL, NCRAD will cover all costs, including shipping.

If you have plasma from non-ADRC participants and would like to use the BAL, 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.

Cross Laboratory Harmonization

The goal of NCRAD is to support longitudinal biomarker quality monitoring and consistent delivery of results over time. We also support cross-laboratory comparability studies. If your ADRC has a fluid biomarker core that is running plasma-based biomarkers and you would like to participate in cross-laboratory comparability studies, please contact the BAL Coordinator, Clairisa Stayton.

NCRAD at AAIC 2023

NCRAD will once again host a booth at the Alzheimer's Association International Conference (AAIC) in Amsterdam, Netherlands from July 16 through July 19. Stop by to meet some of the NCRAD staff, ask questions, and pick up some NCRAD swag!

NCRAD's booth is #212F and will be grouped with other booths hosted by other NIH groups.

NIA-AD FBS Recruitment

Launched in 2003, the National Institute on Aging Alzheimer's Disease Family Based Study (NIA-AD FBS) began with the goal of recruiting study participants from families with multiple members affected with late-onset Alzheimer's Disease. Now the NIA-AD FBS is extending recruitment to the next generation of existing NIA-AD FBS families as well as additional new multiplex families, regardless of the age-at-onset of AD.

Plasma, buffy coat, and whole blood for PBMCs are collected and shipped to NCRAD. These samples will be used for GWAS, WGS, metabolomics, proteomics, and biomarker research.

If your center has participants that may fit NIA-AD FBS enrollment criteria, please consider enrolling them in this study. The key enrollment criteria for a qualifying family includes 2 siblings with Alzheimer's disease with any age of onset and any ethnic background. Please contact Dolly Reyes-Dumeyer (dr2290@cumc.columbia.edu) with any questions.

NIAGADS is Moving to DSS

We are excited to announce that datasets housed in the original NIAGADS database will be moving to the Data Sharing Service (DSS) web portal.

DSS is a FISMA compliant service that follows the GDS policy for file sharing and is hosted via Amazon Web Services (AWS). This allows for an improved user experience through a streamlined application, management, and access process.

We will be providing regular updates on the NIAGADS website as dataset are migrated to the DSS. We appreciate your patience as we move!

FAIR Data Principles and How NIAGADS Applies Them to Our Database

NIAGADS participated in the FAIRness Within and Across Data Infrastructures workshop held by the NIH.

Li-San Wang, PhD, principal investigator of the NIAGADS grant, presented on how NIAGADS works to make its datasets findable, accessible, interoperable, and reusable (FAIR) in line with the FAIR data principals.

Visit Us at AAIC, Booth 212H

NIAGADS will be exhibiting at the annual Alzheimer's Association International Conference (AAIC), being held in **Amsterdam**, The Netherlands, from **July 16-20, 2023**.

Members of the NIAGADS team will be available at the booth to answer questions about:

- Applying for data access
- Utilizing Amazon Web Services (AWS)
- Submitting data
- Data types available
- Tools for visualization and analysis, inclusive of demos

Stop by booth 212H to learn more!

Check Out the Improved GenomicsDB Site and Correlating Preprint Paper

Explore the publicly available summary statistics deposited in NIAGADS with the NIAGADS Alzheimer's Genomics Database (GenomicsDB), an interactive knowledgebase with a plethora of visualization tools.

NIAGADS datasets and ADSP variants have been standardized, harmonized, and annotated through the ADSP annotation pipeline to create an interactive knowledgebase for AD genetics. The GenomicsDB allows real-time mining of the summary statistics datasets and provides genes and variant reports that summarize genetic evidence for AD-risk and link out to related resources, including the Agora, the AD Knowledge Portal. Check out the pre-print paper up on bioRxiv, where you can learn about the development and curation process and how to use GenomicsDB to support and accelerate your research.

Read the pre-print: NIAGADS Alzheimer's GenomicsDB: A resource for exploring Alzheimer's Disease genetic and genomic knowledge | bioRxiv

See GenomicsDB in action: GDB | NIAGADS

Additional Datasets Released:

NG00118:
AMP-AD SV WGS and SV-xQTL

NG00128:
Proteomic profiling identified plasma biomarkers for SARS-CoV-2 infection and severity of COVID-19 patients

NG00129:
NCRAD Families WES (via DSS)

NG00132:
Health and Retirement Study (HRS) APOE and Serotonin Transporter Alleles

NG00133:
Safety and pharmacokinetics of a highly bioavailable resveratrol preparation (JOTROL™)

NG00134:
National Health and Aging Trends Study (NHATS) GWAS