NCRAD

May 2019

Annual ADC Conference Calls

THANK YOU to everyone that participated in an annual call with us this year. We always appreciate the opportunity to talk to each Center and learn about ways to make sample collection and shipping as well as the return of data easier for you.

Expanded Blood-Based Collection

Thank you to all the Centers that have expressed interest in participating in the new NCRAD initiative to expand the range of blood-based samples banked at NCRAD. We will launch this new effort in May and will be banking a range of samples plasma, serum, DNA, RNA and PBMCs (peripheral blood mononuclear cells) from 3,000 participants seen at the centers.

Participating centers have been asked to review their approved blood volumes for collection. We will be using the NIA global unique identifier (GUID) for this study. Please contact Kaci Lacy (lacy@iu.edu) with any questions.

NCRAD at AAIC

NCRAD will host a booth at the Alzheimer's Association International Conference in Los Angeles, CA from July 14-18. Please come see us at **booth #530** to learn more information about our services or ask any questions.

NCRAD APOE Data at NACC

To obtain the most recent APOE data, visit the NACC website at: https://www.alz.washington.edu/adgc.html, select your Center and choose the option to download *APOE* data from NCRAD. As always, please compare these data with any internal *APOE* genotype data you may have generated. Please notify Kaci Lacy (lacy@iu.edu) if you have any questions or find any discrepancies.

Key for *APOE* results on NACC site

1=e3/e3	4=e4/e4	9=missing/unknown/
2=e3/e4	5=e2/e4	not assessed
3=e2/e3	6=e2/e2	

NCRAD IPSC Initiative Update

Researchers funded by NIH are required to share the iPSC and fibroblast lines they develop with other researchers. There can be a significant burden in terms of cost and time to expand the lines, perform extensive characterization, and then distribute them to other researchers. NCRAD is expanding support for the distribution of new cell lines to meet this growing need. We have begun to receive, expand, and distribute iPSC and fibroblast lines from multiple investigators. If you have lines you would like to centrally bank, please contact Jeanine Marshall (jldaltzma@iu.edu) to discuss this initiative further. You may also visit our website to learn more information at: https://ncrad.org/ipsc_fibroblasts.html.

ADC Samples to NCRAD

NCRAD continues to accept samples from all subjects with an MDS or UDS at NACC. NACC has updated the lists of samples for submission to NCRAD as of March 2019. The lists of subjects eligible to send to NCRAD have now been separated into "active" participants and "inactive" participants. Please see the lists at the following link: https://www.alz.washington.edu/GWASPHASE2/gwasphase2.html

While fresh whole blood samples are preferred, NCRAD also accepts frozen buffy coats, transferred DNA and brain tissue samples. Our goal is to have a DNA sample banked and available from all MDS and UDS subjects.

NCRAD Web Tools

Please remember to visit the following page on the NCRAD website to learn about sample requirements if you are interested in submitting samples: https://www.ncrad.org/sample_requirements.html.

Also, if you are interested in requesting samples from NCRAD, please visit this page for information about samples currently available for distribution. You may access the catalog of ADC samples which includes DNA and PBMCs: https://www.ncrad.org/accessing_data.html.

A Central Repository with samples available to match the rich dataset collected for all subjects seen in the ADCs is a very valuable resource for the field of AD research. We hope you will continue to support this effort!

Please contact us with any questions or concerns about NCRAD at 800-526-2839, by email at alzstudy@iu.edu or visit our web-site: www.ncrad.org. Thanks!!

IGAP Identifies New Genes Implicated in Alzheimer's Disease

The International Genomics of Alzheimer's Project (IGAP) has identified five new genes that increase risk for Alzheimer's Disease, as well as confirmed the association of another 20 genes and AD risk. The consortium has also found that tau related mutations could play an earlier role in disease development than previously understood. IGAP is led by Gerard Schellenberg here at the University of Pennsylvania Perelman School of Medicine. A large portion of the data used in this research came from the Alzheimer's Disease Genomics Consortium, which is part of IGAP.

Both the National Institute on Aging and Penn Medicine News have written press releases around this accomplishment. In Penn Medicine's press release, titled "Largest-Ever Alzheimer's Gene Study Reveals Five New Genes that Increase Risk", Dr. Schellenberg stressed the importance of collaborating on an international scale in order to find results that are meaningful. This analysis in particular analyzed genes in 94,437 individuals, and a sample size like this one is extremely important in finding rare variants.

The summary data from the analysis can be found at www.niagads.org/datasets under Accession Number NG00075 – IGAP Rare Variant Summary Statistics – Kunkle et al. (2019).

New Datasets available at https://www.niagads.org/datasets

NIAGADS has added a number of new datasets, bringing the total number of datasets in NIAGADS to 59, with over 59,000 samples and 33 billion genotypes.

NG00075
IGAP Rare Variant Summary Statistics – Kunkle et al. (2019)

NG00077
Genetic analyses of patients with CTE

NG00078
IGAP APOE-Stratified Analysis Summary Statistics – Jun et al. (2015)

NG00079
Northshore Exome Chip

NG00080
Miami Exome Chip

NG00081
CHOP Exome Chip

NG00082
UAB/HudsonAlpha Families with Neurodegenerative Diseases

NG00085
ExomeChip – WashU

Visit Us at AAIC!

NIAGADS is pleased to be exhibiting at the Alzheimer's Association International Conference this summer in Los Angeles, CA. The conference will take place from July 14-18.
The NIAGADS booth will have information about our datasets, a Genomics Database demonstration, and the opportunity to ask the NIAGADS team questions.
Come visit us at **Booth #534**!
We look forward to seeing you there.

New Funding Opportunity Announcement for Alzheimer's Machine Learning Research:

The NIH has announced a new funding opportunity (PAR-19-269) inviting applications around artificial intelligence (AI), machine learning (ML), and/or Deep Learning (DL) approaches that identify gene variants that contribute to risk of or protection against Alzheimer's disease and related dementias (ADRD). Submissions open on September 5, 2019, and applications are due on October 5, 2019.

The FOA can be viewed here: https://grants.nih.gov/grants/guide/pa-files/PAR-19-269.html