



COMPLEXITY OF ADNI SAMPLES AND RARCs

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COMPLEXITY OF THE ADNI STUDY

ADNI is a complex and rich collection of data, imaging, and biospecimens gathered longitudinally from carefully phenotyped participants. It has massive potential for breakthrough discoveries in Alzheimer's research. Monitoring of participants provides us with longitudinal datapoints including progression from CN (Cognitively Normal) to MCI to AD (Alzheimer's disease). The data and samples collected change over time as technology advances.

ADNI serves as a valuable resource for replicating important new findings and validating novel biomarkers. Any scientist may apply for access to data and samples collected by ADNI. However, ADNI samples are precious and governed accordingly by policies and protocols. The final decision concerning release of ADNI samples is made by National Institutes of Aging which funds ADNI.

More information about the ADNI study design is here: <https://adni.loni.usc.edu/about/>

COMPLEXITY OF ADNI SAMPLES

ADNI is a large undertaking with thousands of participants across multiple phases with specimens, data, and imaging collected over multiple timepoints. Thus, there is potential to accommodate requests for specific and complex covariates with rich data to accompany the samples. Interested investigators are encouraged to learn more about:

- Participants and sample collection details, methodology, and schedule of events: <https://adni.loni.usc.edu/help-faqs/adni-documentation/>
- Accounting of available biospecimens and brain tissue and analyses of general interest is in the ADNI dataset: <https://adni.loni.usc.edu/data-samples/adni-data/>
- Additional assessment results are available on:
 - [National Alzheimer's Coordinating Center](#) (NACC)
 - [National Institute on Aging Genetics of Alzheimer's Disease Data Storage](#) (NIAGADS)
- Biosample policies: https://adni.loni.usc.edu/wp-content/themes/adni_2023/documents/rarc/ADNI_Biosample_Policies.pdf
- How to apply for samples: <https://adni.loni.usc.edu/data-samples/adni-samples/>

BIOSPECIMENS COLLECTED OVER ADNI PHASES

Note that there may exist some samples that were collected which do not have associated data. There are analyses that may not be completed, but we have material that has the potential to be used.

Sample Type	ADNI1	ADNI-GO	ADNI2	ADNI3	ADNI4
Genomic DNA	X	X	X	X	
Cell Line DNA	X	X	X	X	
Lymphoblastoid Cell Lines	X	X	X	X	
PBMC (for iPSC)			X	X	X
iPSC lines				X	
RNA (Paxgene)		X	X	X	X
RBC				X	
Whole Blood (for Genomic DNA) - Remote Blood Cohort					X
Plasma - In-Clinic Cohort	X	X	X	X	X
Plasma - Remote Blood Cohort					X
Serum	X	X	X	X	X
CSF	X	X	X	X	X
Urine	X				
Brain tissue* - Formalin-fixed paraffin-embedded (FFPE)	X	X	X	X	X
Brain tissue* - Frozen				X	X

*Neuropathology is ongoing and date of collection is not dependent on phase but on when people consent to autopsy and specimens are collected. 'X' Refers to date of participant expiration. Availability varies from case to case.

REVIEW COMMITTEES

As a condition of funding, NIA requires ADNI investigators to curate and store biosamples collected in ADNI, and share them with non-ADNI scientists. Resource Allocation Review Committees (RARCs) are made up of non-ADNI investigators. They review requests for samples and advise the NIA, who makes final decisions concerning sample release.

ADNI biofluids are stored at the Biomarker Core, at the University of Pennsylvania and distribution is managed by the Biofluids RARC.

ADNI genetic materials are stored at the National Centralized Repository for Alzheimer's Disease and Related Dementias (NCRAD) at Indiana University. The distribution of genetic materials is managed by a review committee at NCRAD called the Biospecimen Review Committee (BRC).

Brains of deceased ADNI participants who consented to brain donation are stored by the Neuropathology Core at Washington University, St. Louis. The distribution of brain tissues is managed by the ADNI Neuropathology Resource Allocation Review Committee (NP RARC).

The policies and procedures of the RARCs listed above can be found here:

https://adni.loni.usc.edu/wp-content/themes/adni_2023/documents/rarc/ADNI_RARC_Policies.pdf