



How can we accelerate drug discovery and diagnostic development for millions of dementia patients by measuring 300,000,000 proteins across multiple neurodegenerative diseases?

The Global Neurodegeneration Proteomics Consortium (GNPC) has brought together top dementia researchers from around the world to collaborate on proteomic and associated clinical data analysis to transform patient trajectories and improve quality of life.

GNPC's Harmonized Data Set (HDS) V1 has gathered over 300 million unique protein measurements from nearly 40,000 biosamples, collaborating with over 20 international research groups focused on:

- Healthy aging
- Alzheimer's disease (AD)
- Parkinson's disease (PD)
- Amyotrophic lateral sclerosis (ALS)
- Frontotemporal dementia (FTD)

GNPC's V1 HDS

The consortium is building a fully anonymized HDS that will grow annually. We are utilizing the Alzheimer's Disease Data Initiative's data-sharing platform and secure workspace environments on the AD Workbench.

- ◆ **Largest pan-neurodegeneration proteomic discovery dataset**
~40,000 samples with 40% of the samples coming from longitudinal studies, and nearly two-thirds from disease-focused cohorts.
- ◆ **Richly phenotyped cohorts**
A growing dataset with >40 unique clinical attributes harmonized across 23 international cohorts.
- ◆ **Uniting & expanding available molecular "fingerprinting" data**
Bringing together complementary proteomics data from the SomaScan, Olink, and Mass Spectrometry platforms for greater insights and cross-modality biological validation.

GNPC's V2 HDS (Currently recruiting)

Expansion priority for the V2 HDS include

- ◆ Greater geographic & ethnic diversity
- ◆ Broadening the funders circle
- ◆ New bioinformatic analysis partners
- ◆ Additional proteomic data providers/platforms

Research Aims & Workstreams

Our goal is to better understand mechanisms specific to a single disease as well as those shared across multiple neurodegenerative disorders. Representative areas of research focus include understanding the role of inflammation, preexisting genetic risk factors, and the identification of combinatorial gene-protein signatures that are indicative of disease type or progression.

Data Flow, Privacy, & Access



2023-2024

Contributor data is harmonized and anonymized into the V1 HDS.

The consortium utilizes workspaces on the AD Workbench to securely share and harmonize the data.



June 2024

GNPC Consortium members receive early access to the HDS to report on summary findings.



June 2025

After one year of intra-consortium analysis, the HDS will be released to the research community as a shared global resource on the AD Workbench (for approved use/users).