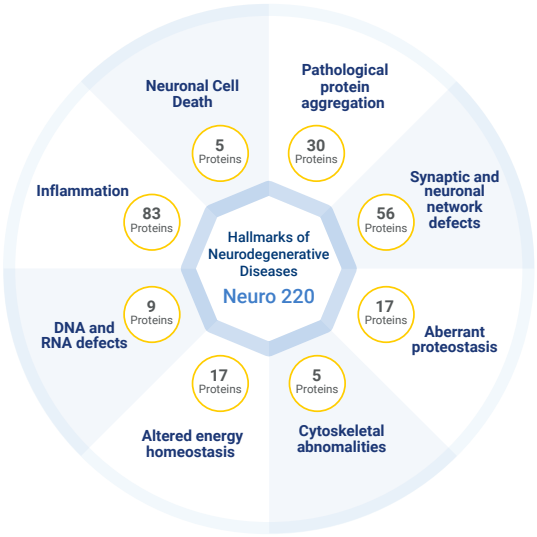
NULISAseq™ Neuro 220 Panel

One powerful panel for comprehensive neurodegenerative research.

Blood based biomarkers of disease progression and therapeutic response are transforming the field of neurology. The NULISAseq™ Neuro 220 Panel offers comprehensive coverage of the Hallmarks of Neurodegenerative Diseases (*Cell*, Volume 186, Issue 4, 693 - 714) with highly sensitive and specific multiplexed analysis of 220 biomarkers from a single sample.

Extending beyond the canonical ATN (Amyloid/Tau/Neurodegeneration) framework to include coverage of inflammation, synuclein pathology, and vascular biomarkers, this panel enables precise detection and longitudinal tracking of key biology, providing researchers with an automated solution to dissect disease heterogeneity, uncover co-pathologies and identify potential signatures of disease prognosis, and therapeutic response in clinical cohorts.

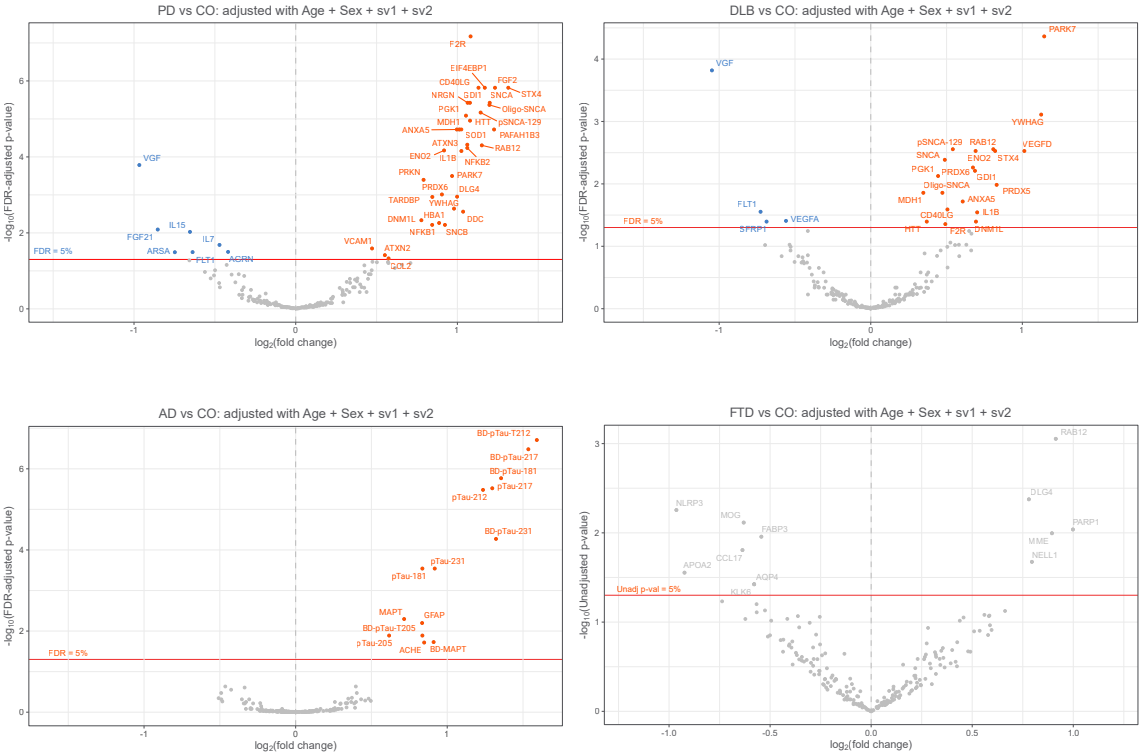


- **Comprehensive analysis** of the Hallmarks of Neurodegenerative Diseases - 220 biomarkers from a single sample
- **Expanded content** provides increased coverage for researching multiple diseases including; AD, PD, TBI, ALS, MS and gliomas
- **Broadest coverage** of ptau isoforms with a suite of 12 highly specific assays covering both brain derived and total tau species
- **Novel content** for Parkinson's Disease developed in collaboration with leading researchers in the field
- **Ultra-high sensitivity** enables compatibility with non-invasive sample collection devices and the potential for pre-symptomatic detection
- **Automation** ensures high reproducibility and ease of use

Resolving clinical heterogeneity and identifying co-pathologies

Detect disease-specific proteins despite significant overlap amongst neurodegenerative diseases. A mixed cohort of 169 plasma samples (control=36, AD=36, PD=37, DLB=36, FTD=24) uncovered co-pathologies in non-AD dementias.

Data courtesy of Carlos Cruchaga, PhD, WashU Medicine, Neurogenomics and Informatics Center



Learn more about NULISA and it's utilization in neurodegenerative research.

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NULISAseq™ Neuro 220 Panel

Comprehensive analysis of 220 biomarkers across major hallmarks in neurodegenerative diseases

Aberrant proteostasis	
ARSA	pRab10-T73
CD63	pRab12-S106
CST3	pRab29-T71
CST5	PSME1
GBA1 (GCase)	RAB29
GPNMB	SQSTM1
HSP27	UBB
KLK6	UCHL1
MME	

Altered Energy Homeostasis	
CNDP1	HMOX1
DDC	MDH1
DNM1L(DRP1/DLP1)	PARK7
ENO2	PGK1
FABP3	pPRKN-S65
FGF21	PRDX5
GLP1R	PRDX6
GOT1	SOD1
HBA1; HBA2	

Pathological Protein Aggregation		
Abeta38 (ab38)	BD-pTau-217	pSNCA-129
Abeta40 (ab40)	BD-pTau-231	pTau-181
Abeta42 (ab42)	BD-tTau	pTau-205
APOE4	eMTBR-Tau	pTau-212
ATXN2	GRN (Progranulin)	pTau-217
ATXN3	HTT	pTau-231
BACE1	mHTT-exon1 (HTT)	pTDP-43
BD-pTau-181	pQ-ATXN3	SNCA
BD-pTau-205	pQ-HTT	SNCB
BD-pTau-212	PSEN1	tTau (MAPT)

DNA and/or RNA defects		
CRH	PARP1	REST
EIF4EBP1	pLRRK2-S1292	RUVBL2
LRRK2 (pS1292)	PRKN	TDP-43 (TARDBP)

Neuronal Cell Death	
FAM3B	VSNL1 (VILIP)
GSDMD	YWHAG
GSDME	

Cytoskeletal Abnormalities	
MAG	PTPRS
NEFH	STMN2
NfL (NEFL)	

Synaptic and Neuronal Network Defects						
ACHE	CGRP	EGFR	IGFBP7	NPTX2	PDGFRB	SNAP25
AGRN	CNTN2	FGF2 (bFGF)	KDR (VEGFR-2)	NPTXR	PDLIM5	STX4
ApoA1	CTNNB1	FLT1 (VEGF R1)	L1CAM	NPY	PPY	TEK (TIE-2)
APOA2	CX3CL1 (Fractalkine)	FOLR1	LDLR	NRGN	PTN	VEGF-A
BASP1	Dkk1	GAP43	NCAM1	NTRK2	Rab10	VEGF-D
BCAN	DLG4 (PSD-95)	GDI1	NELL1	NTRK3	Rab12	VGF
BDNF	EDA2R	GDNF	NGF (β-NGF)	Oligo-SNCA	SFRP1	YWHAZ
CALB2	EFEMP1	IGF1R	NPTX1	PAFAH1B3	SMOC1	

Inflammation						
ANXA5	CCL26 (Eotaxin-3)	CXCL10 (IP-10)	IFNG (IFN-γ)	IL-5	NFKB1	SAA1
APOE	CCL3 (MIP-1α)	CXCL13 (BCA-1)	IL-10	IL-6	NFKB2	SerpinA3
APOH	CCL4 (MIP-1β)	CXCL8 (IL-8)	IL-12A|IL-12B	IL-6R (IL-6RA)	NLRP3	SFTPD
AQP4	CCL5 (RANTES)	F2R	IL-13	IL-7	NT-ProBNP	SLIT2
AXL	CD33	FCGR2A (CD32A)	IL-15	IL-9	PDGFC	SPP1
C1Q	CD40LG	FCGR2B (CD32B)	IL-16	ITGAV (CD51)	PGF (PLGF)	TIMP3
CCL11 (Eotaxin)	CHI3L1 (YKL-40)	FCN2	IL-17A	LGALS3	PLAUR	TNF (TNF-α)
CCL13 (MCP-4)	CHIT1	GAS6	IL-18	MDK (Midkine)	POSTN	TNFSF14 (CD258)
CCL17 (TARC)	CRP	GDF-15	IL-1B	MMP10	PPBP	TREM-1 (sTREM1)
CCL18	CSF1R (CD115)	GFAP	IL-2	MMP-9	PROS1	TREM-2
CCL2 (MCP-1)	CSF2 (GM-CSF)	HPGDS	IL-33	MOG	S100A12 (EN-RAGE)	VCAM-1 (CD106)
CCL22 (MDC)	CXCL1 (GROα)	ICAM1 (CD54)	IL-4	MSLN	S100B	

Visit **AlamarBio.com** to learn more.

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