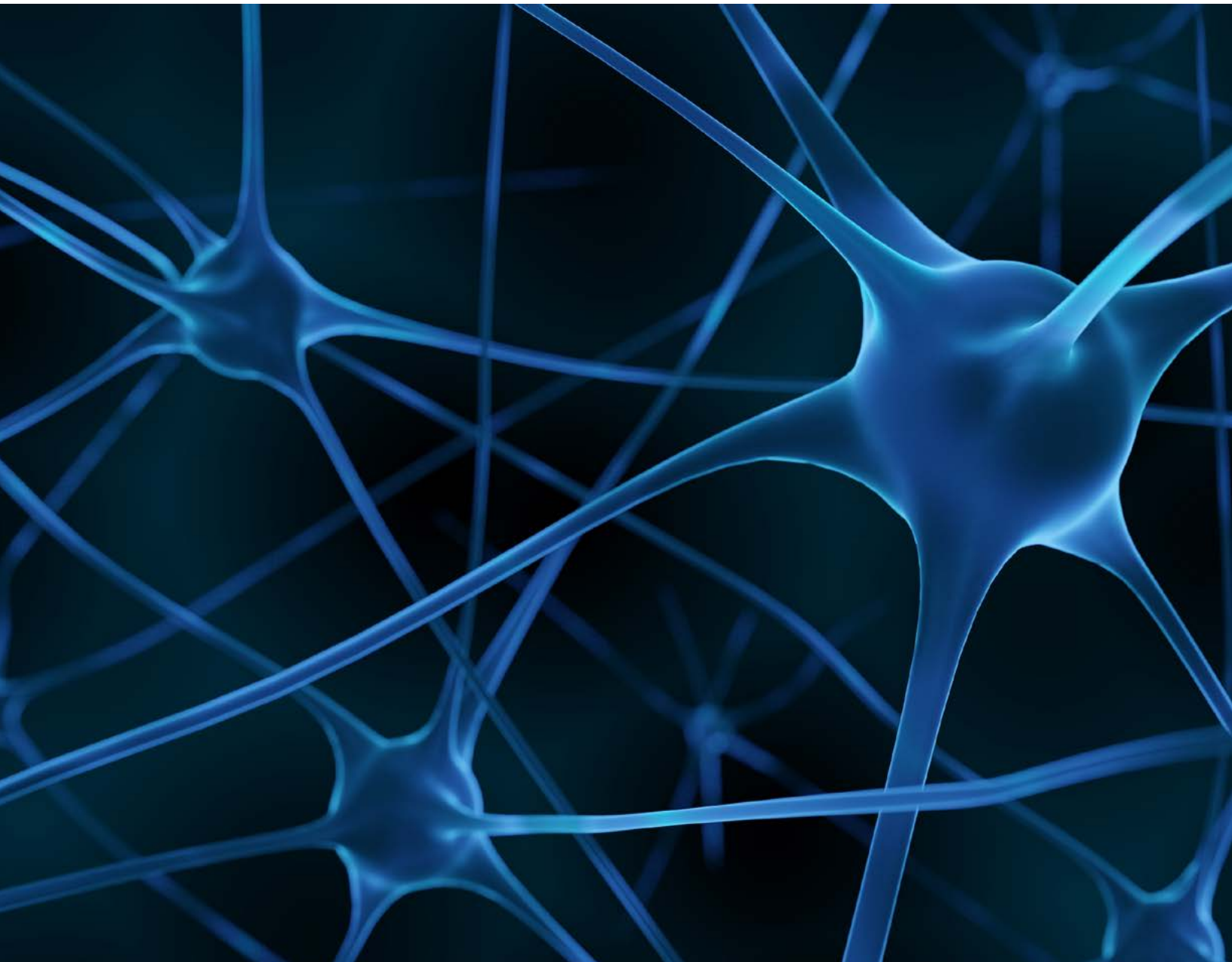
MAYO CLINIC
LABORATORIES

Autoimmune Neurology Antibody Matrix

A tool to guide test ordering



The evolution of phenotype-specific antibody testing

Autoimmune neurology testing is rapidly evolving with increasing numbers of clinically relevant biomarkers discovered each year. Mayo Clinic's neuroimmunology laboratory has developed a unique approach to ease physician burden and improve patient care. The concept of phenotype-specific antibody evaluations was created to enable physicians to select a test based on clinical presentation. Our testing includes the most relevant antibodies associated with each disease-state and the results provide clinically actionable answers in the shortest amount of time. We continually evaluate these panels and add or remove antibodies when necessary.

WHICH SPECIMEN SHOULD I TEST?

Certain neural antibodies are detected more readily in serum (e.g., LGI1, CASPR2), while others can be detected more readily in CSF (e.g., NMDA, GFAP). Testing both, simultaneously or sequentially, maximizes diagnostic yield.

30
classified antibodies reported in our panels.

6–7
unclassified antibodies called-out every day.

		PLASMA MEMBRANE SPECIFICITIES													NUCLEAR AND CYTOPLASMIC SPECIFICITIES														
		NMDA-R	LGI1	CASPR2	AMPA-R	GABA-B-R	DPPX	mGluR1	VGKC-Complex	P/Q Type VGCC	AChR Ganglionic	PCA-TR	AQP4	MOG	IgLONS	ANNA-1 (Hu)	ANNA-2 (Ri)	ANNA-3	AGNA (SOX1)	PCA-1 (Yo)	PCA-2	CRMP-5 (CV2)	Amphiphysin	GAD65	GFAP	GRAF1	ITPR1	NIF	TAT
CENTRAL NERVOUS SYSTEM EVALUATIONS																													
ENS2	Encephalopathy, Serum	•	•	•	•	•	•	•				•			•	•	•	•	•	•	•	•	•	•	•			•	10 days
ENC2	Encephalopathy, CSF	•	•	•	•	•	•	•				•			•	•	•	•	•	•	•	•	•	•	•			•	8 days
DMS2	Dementia, Serum	•	•	•	•	•	•	•				•			•	•	•	•	•		•	•	•	•	•			•	10 days
DMC2	Dementia, CSF	•	•	•	•	•	•	•				•			•	•	•	•	•		•	•	•	•	•			•	8 days
EPS2	Epilepsy, Serum	•	•	•	•	•	•	•				•				•	•	•	•		•	•	•	•	•				10 days
EPC2	Epilepsy, CSF	•	•	•	•	•	•	•				•				•	•	•	•		•	•	•	•	•				8 days
MDS2	Movement Disorders, Serum	•	•	•			•	•		•		•			•	•	•	•	•	•	•	•	•	•		•	•	•	10 days
MDC2	Movement Disorders, CSF	•	•	•			•	•				•			•	•	•	•	•	•	•	•	•	•		•	•	•	8 days
PCDES	Pediatric CNS Disorders, Serum	•	•	•		•	•	•				•	•	•		•								•	•				10 days
PCDEC	Pediatric CNS Disorders, CSF	•	•	•		•	•	•				•	•			•								•	•				8 days
MAS1	Myelopathy, Serum						•	•				•	•	•		•	•	•	•	•	•	•	•	•	•			•	10 days
MAC1	Myelopathy, CSF						•	•				•	•			•	•	•	•	•	•	•	•	•	•			•	8 days
CDS1	CNS Demyelinating Disease, Serum												•	•															7 days
PARANEOPLASTIC EVALUATIONS																													TAT
PAVAL	Paraneoplastic, Serum								•	•	•	•				•	•	•	•	•	•	•	•						10 days
PAC1	Paraneoplastic, CSF											•				•	•	•	•	•	•	•	•						8 days
PERIPHERAL NEUROPATHY EVALUATIONS																													TAT
AIAES	Autoimmune Axonal, Serum		•	•												•		•	•	•	•	•	•						10 days
DYS2	Autoimmune Dysautonomia, Serum		•	•			•				•					•					•	•							10 days

Follow-up testing is available for individual antibodies using Mayo Test ID: PNEFS and PNEFC

PLASMA MEMBRANE SPECIFICITIES

ANTIBODY	ONCOLOGICAL ASSOCIATION	APPROXIMATE FREQUENCY
NMDA-R	Teratoma (ovarian or extra-ovarian)	50%
LGI1	Thymoma	<5%
CASPR2	Thymoma	<10%
AMPA-R	Thymoma, lung and breast carcinoma	70%
GABA-B-R	Small-cell lung carcinoma, other neuroendocrine neoplasm	70%
DPPX	B-cell neoplasia	<20%
mGluR1	Hodgkin lymphoma	50%
VGKC-Complex	No specific oncological association	<10%
P/Q and N-Type Calcium Channel	Lung, breast, or gynecologic carcinoma	15%
AChR Binding	Thymoma, lung, breast, gynecologic, or prostate carcinoma	<15%
AChR Ganglionic	Miscellaneous carcinomas, thymoma	<15%
PCA-Tr	Hodgkin lymphoma	70-80%
AQP4	Rare, varied, more common in elderly patients	<20%
MOG	No specific oncological association	-
IgLON5	No specific oncological association	-

NUCLEAR AND CYTOPLASMIC SPECIFICITIES

ANTIBODY	ONCOLOGICAL ASSOCIATION	APPROXIMATE FREQUENCY
ANNA-1 (Hu)	Small-cell lung carcinoma, neuroblastoma, thymoma	90%
ANNA-2 (Ri)	Small-cell lung carcinoma, breast adenocarcinoma	90%
ANNA-3	Aerodigestive carcinoma	90%
AGNA-1 (SOX1)	Small-cell lung carcinoma	90%
PCA-1 (Yo)	Ovary, other mullerian, or breast	90%
PCA-2	Small-cell lung carcinoma	90%
CRMP-5	Small-cell lung carcinoma, thymoma, thyroid, or renal carcinoma	90%
Amphiphysin	Small-cell lung carcinoma, breast adenocarcinoma	90%
GAD65	Occasionally (e.g., thymoma)	<10%
GFAP	Ovarian teratoma, other	25%
GRAF1	Breast, small-cell lung carcinoma	50%
ITPR1	Breast, small-cell lung carcinoma	30%
NIF	Neuroendocrine, small-cell carcinoma	77%

Learn more online at mayocliniclabs.com/neurology