

Autoimmune Encephalitis Extended Panel, Serum, and Autoimmune Encephalitis Reflex Panel, CSF

Autoimmune encephalitis may be suspected in patients with subacute onset of new, unexplained neurologic symptoms.¹ Antibodies associated with autoimmune encephalitis may be present in the serum or cerebrospinal fluid (CSF) and can serve as useful markers of disease.

Disease Overview

Autoimmune encephalitis presents with diverse neurologic phenotypes, including encephalopathy, epilepsy, movement disorders, and psychiatric symptoms, among others.¹ The detection of antineural antibodies may help establish a diagnosis, support treatment decisions, aid prognostication, serve as a prerequisite for enrollment in clinical trials, and guide the search for an associated malignancy. Because the differential diagnosis is broad, choosing a targeted phenotypic panel based on a patient's predominant clinical features, rather than a broad antibody panel, is often recommended.¹

For more information about laboratory testing for autoimmune neurologic diseases, including detailed information about panel test selection, refer to the ARUP Consult [Autoimmune Neurologic Diseases - Antineural Antibody Testing](#) topic.

Test Description

ARUP's serum Autoimmune Encephalitis Extended Panel and CSF Autoimmune Encephalitis Reflex Panel can be used to evaluate suspected autoimmune disease of the central nervous system (CNS). Testing for the presence of antineural antibodies in both serum and CSF is recommended in most situations.¹

These panels do not test for paraneoplastic antibodies. To evaluate for paraneoplastic antibodies, refer to ARUP's Paraneoplastic Reflexive Panels.

These panels cover a broad range of autoimmune neurologic phenotypes; for greater diagnostic yield and improved turnaround time, consider choosing a phenotype-specific panel (see table below) rather than a broad panel.

ARUP Phenotype-Specific Panels to Consider for Autoimmune Neurologic Disease

ARUP Panel	Test Code	
	Serum	CSF
Autoimmune Encephalopathy/Dementia Panel	3006201	3006202

Featured ARUP Testing

[Autoimmune Encephalitis Extended Panel, Serum 3006050](#)

Method: Semiquantitative Cell-Based Indirect Fluorescent Antibody/Quantitative Radioimmunoassay/Semiquantitative Enzyme-Linked Immunosorbent Assay

[Autoimmune Encephalitis Reflex Panel, CSF 3006049](#)

Method: Semiquantitative Cell-Based Indirect Fluorescent Antibody/Quantitative Radioimmunoassay/Semiquantitative Enzyme-Linked Immunosorbent Assay

ARUP Panel	Test Code	
	Serum	CSF
Autoimmune Epilepsy Panel	3006204	3006205
Autoimmune Movement Disorder Panel	3006206	3006207
Autoimmune Myelopathy Panel	3006208	3006209
Autoimmune Dysautonomia Panel	3006203	—
Autoimmune Pediatric CNS Disorders	3006210	3006211

Regardless of the panel chosen, order only one panel for serum and/or one panel for CSF; many antineural antibodies are redundant between these panels, and choosing based on the predominant phenotype will provide the most meaningful results. To compare these panels and the antibodies included, refer to [ARUP Autoimmune Neurology Panel Components](#).

Testing for individual autoantibodies is also available separately and can be used for long-term monitoring.

Antibodies Tested and Methodology

Autoimmune Encephalitis Extended Panel, Serum (3006050) and Autoimmune Encephalitis Reflex Panel, CSF (3006049): Antibodies Tested and Methodology			
Autoantibody Marker	Method	Individual Autoantibody or Focused Panel Test Code	
		Serum	CSF
AMPA Ab, IgG	CBA-IFA	3001260	3001257
AQP4 Ab, IgG	CBA-IFA, reflex titer	2013320	2011699
CASPR2 Ab, IgG	CBA-IFA, reflex titer	2009452	3001986
DPPX Ab, IgG	CBA-IFA, reflex titer	3004359	3004512
GABA-AR Ab, IgG	CBA-IFA, reflex titer	3006008	3006003
GABA-BR Ab, IgG	CBA-IFA, reflex titer	3001270	3001267
GAD65 Ab	ELISA	2001771	3002788

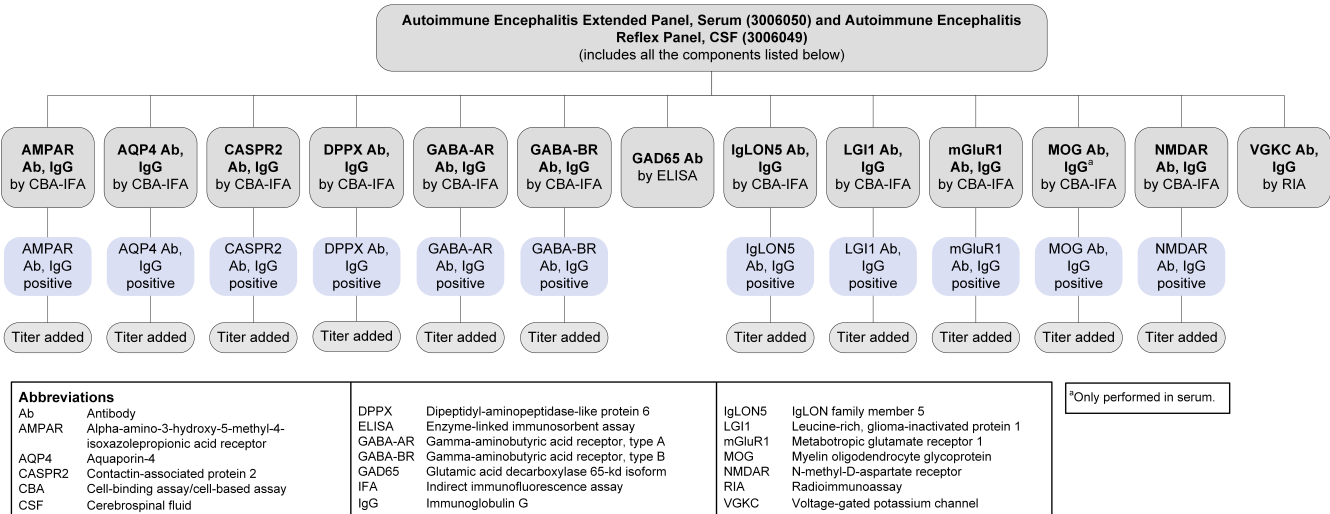
Ab, antibody; AMPAR, alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptor; AQP4, aquaporin-4; CASPR2, contactin-associated protein 2; CBA, cell-binding assay/cell-based assay; DPPX, dipeptidyl-aminopeptidase-like protein 6; ELISA, enzyme-linked immunosorbent assay; GABA-AR, gamma-aminobutyric acid receptor, type A; GABA-BR, gamma-aminobutyric acid receptor, type B; GAD65, glutamic acid decarboxylase 65-kd isoform; IFA, indirect immunofluorescence assay; Ig, immunoglobulin; IgLON5, IgLON family member 5; LGI1, leucine-rich, glioma-inactivated protein 1; mGluR1, metabotropic glutamate receptor 1; MOG, myelin oligodendrocyte glycoprotein; NMDAR, N-methyl-D-aspartate receptor; RIA, radioimmunoassay; VGKC, voltage-gated potassium channel

Autoantibody Marker	Method	Individual Autoantibody or Focused Panel Test Code	
		Serum	CSF
IgLON5 Ab, IgG	CBA-IFA, reflex titer	3006018	3006013
LGI1 Ab, IgG	CBA-IFA, reflex titer	2009456	3001992
mGluR1 Ab, IgG	CBA-IFA, reflex titer	3006044	3006039
MOG Ab, IgG	CBA-IFA, reflex titer	3001277	—
NMDAR Ab, IgG	CBA-IFA, reflex titer	2004221	2005164
VGKC Ab, IgG	RIA	2004890	3001387

Ab, antibody; AMPAR, alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptor; AQP4, aquaporin-4; CASPR2, contactin-associated protein 2; CBA, cell-binding assay/cell-based assay; DPPX, dipeptidyl-aminopeptidase-like protein 6; ELISA, enzyme-linked immunosorbent assay; GABA-AR, gamma-aminobutyric acid receptor, type A; GABA-BR, gamma-aminobutyric acid receptor, type B; GAD65, glutamic acid decarboxylase 65-kd isoform; IFA, indirect immunofluorescence assay; Ig, immunoglobulin; IgLON5, IgLON family member 5; LGI1, leucine-rich, glioma-inactivated protein 1; mGluR1, metabotropic glutamate receptor 1; MOG, myelin oligodendrocyte glycoprotein; NMDAR, N-methyl-D-aspartate receptor; RIA, radioimmunoassay; VGKC, voltage-gated potassium channel

Reflex Patterns

Autoimmune Encephalitis Extended Panel, Serum (3006050) and Reflex Panel, CSF (3006049): Reflex Patterns



Limitations

These tests do not include all known antineural antibodies:

- Some antibodies are extremely rare or are of uncertain clinical significance.

- As testing for newly described antibodies becomes available and their clinical relevance is established, these panels may evolve to reflect these discoveries.

Test Interpretation

Results

Results must be interpreted in the clinical context of the individual patient; test results (positive or negative) should not supersede clinical judgment.

Autoimmune Encephalitis Extended Panel, Serum (3006050) and Autoimmune Encephalitis Reflex Panel, CSF (3006049): Results Interpretation	
Result	Interpretation
Positive for ≥ 1 autoantibodies	Autoantibody(ies) detected May support a diagnosis of autoimmune encephalitis Consider a focused search for malignancy based on antibody-tumor associations
Negative	No autoantibodies detected A diagnosis of autoimmune encephalitis is not excluded

References

1. Budhram A, Dubey D, Sechi E, et al. [Neural antibody testing in patients with suspected autoimmune encephalitis](#). *Clin Chem*. 2020;66(12):1496-1509.

Related Information

[ARUP Autoimmune Neurology Panel Components](#)

[Autoimmune Neurologic Diseases - Antineural Antibody Testing](#)

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