Overview

Useful For

Investigating new onset dementia and cognitive impairment plus 1 or more of the following using serum specimens:

-Rapid onset and progression

-Fluctuating course

-Psychiatric accompaniments (psychosis, hallucinations)

-Movement disorder (myoclonus, tremor, dyskinesias)

-Headache

-Autoimmune stigmata (personal history or family history or signs of diabetes mellitus, thyroid disorder, vitiligo, poliosis [premature graying], myasthenia gravis, rheumatoid arthritis, systemic lupus erythematosus)

-Smoking history (20+ pack years) or other cancer risk factors

-History of cancer

-Inflammatory cerebrospinal fluid

-Neuroimaging findings atypical for degenerative etiology

Profile Information

Test ID	Reporting Name	Available Separately	Always Performed
ADMSI	Dementia, Interpretation, S	No	Yes
AMPCS	AMPA-R Ab CBA, S	No	Yes
AMPHS	Amphiphysin Ab, S	No	Yes
AGN1S	Anti-Glial Nuclear Ab, Type 1	No	Yes
ANN1S	Anti-Neuronal Nuclear Ab, Type 1	No	Yes
ANN2S	Anti-Neuronal Nuclear Ab, Type 2	No	Yes
ANN3S	Anti-Neuronal Nuclear Ab, Type 3	No	Yes
CS2CS	CASPR2-IgG CBA, S	No	Yes
CRMS	CRMP-5-IgG, S	No	Yes
DPPIS	DPPX Ab IFA, S	No	Yes
GABCS	GABA-B-R Ab CBA, S	No	Yes
GD65S	GAD65 Ab Assay, S	Yes	Yes
GFAIS	GFAP IFA, S	No	Yes

Test ID	Reporting Name	Available Separately	Always Performed
IG5IS	IgLON5 IFA, S	No	Yes
LG1CS	LGI1-IgG CBA, S	No	Yes
GL1IS	mGluR1 Ab IFA, S	No	Yes
NIFIS	NIF IFA, S	No	Yes
NMDCS	NMDA-R Ab CBA, S	No	Yes
PCAB2	Purkinje Cell Cytoplasmic Ab Type 2	No	Yes
PCATR	Purkinje Cell Cytoplasmic Ab Type Tr	No	Yes

Reflex Tests

Test ID	Reporting Name	Available Separately	Always Performed
ARBI	ACh Receptor (Muscle) Binding Ab	Yes	No
AGNBS	AGNA-1 Immunoblot, S	No	No
AINCS	Alpha Internexin CBA, S	No	No
AMPIS	AMPA-R Ab IF Titer Assay, S	No	No
AMIBS	Amphiphysin Immunoblot, S	No	No
AN1BS	ANNA-1 Immunoblot, S	No	No
AN2BS	ANNA-2 Immunoblot, S	No	No
CRMWS	CRMP-5-IgG Western Blot, S	Yes	No
DPPCS	DPPX Ab CBA, S	No	No
DPPTS	DPPX Ab IFA Titer, S	No	No
GABIS	GABA-B-R Ab IF Titer Assay, S	No	No
GFACS	GFAP CBA, S	No	No
GFATS	GFAP IFA Titer, S	No	No
IG5CS	IgLON5 CBA, S	No	No
IG5TS	IgLON5 IFA Titer, S	No	No
GL1CS	mGluR1 Ab CBA, S	No	No
GL1TS	mGluR1 Ab IFA Titer, S	No	No
NFHCS	NIF Heavy Chain CBA, S	No	No
NIFTS	NIF IFA Titer, S	No	No
NFLCS	NIF Light Chain CBA, S	No	No
NMDIS	NMDA-R Ab IF Titer Assay, S	No	No

Test ID	Reporting Name	Available Separately	Always Performed
PC1BS	PCA-1 Immunoblot, S	No	No
PCABP	Purkinje Cell Cytoplasmic Ab Type 1	No	No
PCTBS	PCA-Tr Immunoblot, S	No	No

Testing Algorithm

If indirect immunofluorescence assay (IFA) pattern suggests antiglial nuclear antibody (AGNA)-1, then AGNA-1 immunoblot is performed at an additional charge.

If IFA pattern suggests antineuronal nuclear antibody (ANNA)-1, then ANNA-1 immunoblot is performed at an additional charge.

If IFA pattern suggests ANNA-2 antibody, then ANNA-2 immunoblot is performed at an additional charge.

If IFA pattern suggests amphiphysin antibody, then amphiphysin immunoblot is performed at an additional charge.

If client requests or if IFA patterns suggest collapsin response-mediator protein 5 (CRMP-5)-IgG, then CRMP-5-IgG Western blot and acetylcholine receptor (ACh) receptor (muscle) binding antibody are performed at an additional charge.

If IFA pattern suggests alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptor (AMPA-R) antibody, and AMPA-R antibody cell-binding assay (CBA) is positive, then AMPA-receptor antibody IF titer assay is performed at an additional charge.

If AMPA-R antibody CBA is positive, then CRMP-5-IgG Western blot, and ACh receptor (muscle) binding antibody are performed at an additional charge.

If Contactin-Associated Protein-Like-2 (CASPR2)-receptor antibody CBA is positive, then CRMP-5-IgG Western blot and ACh receptor (muscle) binding antibody are performed at an additional charge.

If IFA pattern suggests gamma-aminobutyric acid B receptor (GABA-B-R) antibody, and GABA-B-R antibody CBA is positive, then GABA-B-R antibody IF titer assay is performed at an additional charge.

If IFA pattern suggests glial fibrillary acidic protein (GFAP) antibody, GFAP IFA Titer and GFAP CBA are performed at an additional charge.

If IFA pattern suggests N-methyl-D-aspartate receptor (NMDA-R) antibody, and NMDA-receptor antibody CBA is positive, then NMDA-R antibody IF titer assay is performed at an additional charge.

If IFA patterns suggest PCA-1, then Purkinje cell cytoplasmic antibody type 1 (PCA-1) immunoblot is performed at an additional charge.

If IFA pattern suggests PCA-Tr antibody, then PCA-Tr immunoblot is performed at an additional charge.

If IFA pattern suggests dipeptidyl-peptidase-like protein-6 (DPPX) antibody, then DPPX antibody CBA and DPPX titer are performed at an additional charge.

If IFA pattern suggests metabotropic glutamate receptor 1 (mGluR1) antibody, then mGluR1 antibody CBA and mGluR1 titer are performed at an additional charge.

If IFA pattern suggests IgLON5 antibody, then IgLON5 antibody CBA and IgLON5 IFA titer are performed at an additional charge.

If IFA pattern suggests neuronal intermediate filament (NIF) antibody, then alpha internexin CBA NIF heavy chain CBA, NIF light chain CBA, and NIF IFA titer are performed at an additional charge.

See Dementia Autoimmune Evaluation Algorithm-Serum in Special Instructions.

Special Instructions

- Dementia Autoimmune Evaluation Algorithm-Serum

Method Name

AINCS, AMPCS, CS2CS, DPPCS, GABCS, GFACS, GL1CS, IG5CS, LG1CS, NFHCS, NFLCS, NMDCS: Cell Binding Assay (CBA)

AGN1S, AMPHS, AMPIS, ANN1S, ANN2S, ANN3S, CRMS, DPPIS, DPPTS, GABIS, GFAIS, GFATS, GL1IS, GL1TS, IG5IS, IG5TS, NIFIS, NIFTS, NMDIS, PCAB2, PCABP, PCATR: Indirect Immunofluorescence Assay (IFA)

ARBI, GD65S: Radioimmunoassay (RIA)

CRMWS: Western Blot (WB)

AGNBS, AMIBS, AN1BS, AN2BS, PC1BS, PCTBS: Immunoblot (IB)

NY State Available

Yes

Specimen

Specimen Type

Serum

Necessary Information

Provide the following information:

-Relevant clinical information

-Ordering provider name, phone number, mailing address, and e-mail address

Specimen Required

Patient Preparation:

1. For optimal antibody detection, specimen collection is recommended prior to initiation of immunosuppressant medication or intravenous immunoglobulin treatment.

2. This test should not be requested in patients who have recently received radioisotopes, therapeutically or diagnostically, because of potential assay interference. The specific waiting period before specimen collection will depend on the isotope administered, the dose given, and the clearance rate in the individual patient. Specimens will

be screened for radioactivity prior to analysis. Radioactive specimens received in the laboratory will be held 1 week and assayed if sufficiently decayed, or canceled if radioactivity remains.

3. Patient should have no general anesthetic or muscle-relaxant drugs in the previous 24 hours.

Container/Tube:

Preferred: Red top

Acceptable: Serum gel

Specimen Volume: 4 mL

Forms

If not ordering electronically, complete, print, and send a Neurology Specialty Testing Client Test Request (T732) with the specimen.

Specimen Minimum Volume

2.5 mL

Reject Due To

Gross hemolysis	Reject
Gross lipemia	Reject
Gross icterus	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	28 days	
	Frozen	28 days	
	Ambient	72 hours	

Clinical and Interpretive

Clinical Information

The rapid identification of subacute cognitive decline as autoimmune dementia facilitates optimum treatment with immunotherapy and an expedited search for a limited stage of cancer in some patients. Traditionally, neurologists have been reluctant to consider a diagnosis of an autoimmune cognitive disorder in the absence of delirium. However, some recent case series and clinical-serologic observations have suggested a growing appreciation for autoimmune neurologic disorders presenting with features of a rapidly progressive dementia rather than delirium. These disorders can affect all age groups.

Unfortunately, these potentially reversible conditions may be misdiagnosed as being progressive neurodegenerative (currently irreversible) disorders with devastating consequences for the patient. In the evaluation of a patient with cognitive decline, clinicians should consider the possibility of an autoimmune etiology on their list of differential diagnoses. The importance of not overlooking this possibility rests in the experience that these patients have a

potentially immunotherapy-responsive, reversible disorder. The development and widespread availability of neural antibody marker testing has changed this perspective so that other presenting symptoms such as personality change, executive dysfunction, and psychiatric symptoms are increasingly recognized in an autoimmune context.

Clues that are helpful in identifying patients with an autoimmune dementia can be summarized within a triad of: 1) suspicious clinical features (a subacute onset of symptoms, a rapidly progressive course, and fluctuating symptoms) and radiological findings, 2) the detection of cerebrospinal fluid (CSF) or serological biomarkers of autoimmunity and 3) a response to immunotherapy.

Detection of neural autoantibodies in serum or CSF serves 2 purposes; to inform the physician of a likely autoimmune etiology and to raise suspicion for a paraneoplastic cause. The neurological associations of neural autoantibodies tend to be diverse and multifocal, although certain syndromic associations may apply. For example, LGI1 antibody was initially considered to be specific for autoimmune limbic encephalitis, but over time other presentations have been reported, including rapidly progressive course of cognitive decline mimicking neurodegenerative dementia.

Since neurological presentations are often multifocal and diverse, comprehensive antibody testing is usually more informative than testing for 1 or 2 selected antibodies. Some of the antibodies are highly predictive of an unsuspected underlying cancer. For example; small-cell lung carcinoma (antineuronal nuclear antibody-type 1: ANNA-1; collapsin response-mediator protein-5 neuronal: CRMP-5-IgG), ovarian teratoma (N-methyl-D-aspartate receptor: NMDA-R), and thymoma (CRMP-5 IgG).

Also, a profile of seropositivity for multiple autoantibodies may be informative for cancer type. For example, in a patient presenting with a rapidly progressive dementia who has CRMP- 5-IgG, and subsequent reflex reveals muscle acetylcholine receptor (AChR) binding antibody, the findings should raise a high suspicion for thymoma. If an associated tumor is found, its resection or ablation optimizes the neurological outcome.

Antibody testing on CSF is additionally helpful, particularly when serum testing is negative, though in some circumstances testing both serum and CSF simultaneously is pertinent. Testing of CSF is recommended for some antibodies in particular (such as NMDA-R antibody and GFAP-IgG) because CSF testing is both more sensitive and specific.

Reference Values

Test ID	Reporting name	Methodology	Reference value
AMPCS	AMPA-R Ab CBA, S	Cell-binding assay (CBA)	Negative
AMPHS	Amphiphysin Ab, S	Indirect immunofluorescence assay (IFA)	<1:240
AGN1S	Anti-Glial Nuclear Ab, Type 1	IFA	<1:240
ANN1S	Anti-Neuronal Nuclear Ab, Type 1	IFA	<1:240
ANN2S	Anti-Neuronal Nuclear Ab, Type 2	IFA	<1:240
ANN3S	Anti-Neuronal Nuclear Ab, Type 3	IFA	<1:240
CS2CS	CASPR2-IgG CBA, S	CBA	Negative
CRMS	CRMP-5-IgG, S	IFA	<1:240
DPPIS	DPPX Ab IFA, S	IFA	Negative

GABCS	GABA-B-R Ab CBA, S	CBA	Negative
GD65S	GAD65 Ab Assay, S	Radioimmunoassay (RIA)	< or =0.02 nmol/L Reference values apply to all ages.
GFAIS	GFAP IFA, S	IFA	Negative
IG5IS	IgLON5 IFA, S	IFA	Negative
LG1CS	LGI1-IgG CBA, S	CBA	Negative
GL1IS	mGluR1 Ab IFA, S	IFA	Negative
NIFIS	NIF IFA, S	IFA	Negative
NMDCS	NMDA-R Ab CBA, S	CBA	Negative
PCAB2	Purkinje Cell Cytoplasmic Ab Type 2	IFA	<1:240
PCATR	Purkinje Cell Cytoplasmic Ab Type Tr	IFA	<1:240

Reflex Information:

Test ID	Reporting name	Methodology	Reference value
ARBI	ACh Receptor (Muscle) Binding Ab	Â RIA	< or =0.02
AGNBS	AGNA-1 Immunoblot, S	Immunoblot (IB)	Negative
AINCS	Alpha Internexin CBA, S	CBA	Negative
AMPIS	AMPA-R Ab IF Titer Assay, S	IFA	<1:120
AMIBS	Amphiphysin Immunoblot, S	IB	Negative
AN1BS	ANNA-1 Immunoblot, S	IB	Negative
AN2BS	ANNA-2 Immunoblot, S	IB	Negative
CRMWS	CRMP-5-IgG Western Blot, S	Western blot	Negative
DPPCS	DPPX Ab CBA, S	CBA	Negative
DPPTS	DPPX Ab IFA Titer, S	IFA	<1:240
GABIS	GABA-B-R Ab IF Titer Assay, S	IFA	<1:240
GFACS	GFAP CBA, S	CBA	Negative
GFATS	GFAP IFA Titer, S	IFA	<1:240
IG5CS	IgLON5 CBA, S	CBA	Negative
IG5TS	IgLON5 IFA Titer, S	IFA	<1:240
GL1CS	mGluR1 Ab CBA, S	CBA	Negative
GL1TS	mGluR1 Ab IFA Titer, S	IFA	<1:240

NFHCS	NIF Heavy Chain CBA, S	CBA	Negative
NIFTS	NIF IFA Titer, S	IFA	<1:240
NFLCS	NIF Light Chain CBA, S	CBA	Negative
NMDIS	NMDA-R Ab IF Titer Assay, S	IFA	<1:120
PC1BS	PCA-1 Immunoblot, S	IB	Negative
PCABP	Purkinje Cell Cytoplasmic Ab Type 1	IFA	<1:240
PCTBS	PCA-Tr Immunoblot, S	IB	Negative

Neuron-restricted patterns of IgG staining that do not fulfill criteria for ANNA-1, ANNA-2, CRMP-5-IgG, PCA-1, PCA-2, or PCA-Tr may be reported as "unclassified anti-neuronal IgG." Complex patterns that include nonneuronal elements may be reported as "uninterpretable."

Note: CRMP-5 titers lower than 1:240 are detectable by recombinant CRMP-5 Western blot analysis. CRMP-5 Western blot analysis will be done on request on stored serum (held 4 weeks). This supplemental testing is recommended in cases of chorea, vision loss, cranial neuropathy, and myelopathy. Call the Neuroimmunology Laboratory at 800-533-1710 to request CRMP-5 Western blot.

Interpretation

Antibodies specific for neuronal, glial, or muscle proteins are valuable serological markers of autoimmune epilepsy and of a patient's immune response to cancer. These autoantibodies are not found in healthy subjects, and are usually accompanied by subacute neurological symptoms and signs. It is not uncommon for more than 1 of the following autoantibodies to be detected in patients with autoimmune dementia:

-Plasma membrane antibodies (N-methyl-D-aspartate [NMDA] receptor; 2-amino-3-[5-methyl-3-oxo-1,2-oxazol-4-yl] propanoic acid [AMPA] receptor; gamma-amino butyric acid [GABA-B] receptor). These autoantibodies are all potential effectors of dysfunction.

-Neuronal nuclear autoantibody, type 1 (ANNA-1) or type 3 (ANNA-3).

-Neuronal or muscle cytoplasmic antibodies (amphiphysin, Purkinje cell antibody-type 2 [PCA-2], collapsin response-mediator protein-5 neuronal [CRMP-5-IgG], or glutamic acid decarboxylase [GAD65] antibody).

Cautions

Negative results do not exclude autoimmune dementia or cancer.

This test does not detect Ma1 or Ma2 antibodies (alias MaTa). Ma2 antibody has been described in patients with brainstem and limbic encephalitis in the context of testicular germ cell neoplasms. Scrotal ultrasound is advisable in men who present with unexplained subacute encephalitis.

Intravenous immunoglobulin (IVIg) treatment prior to the serum collection may cause a false-positive result.

Clinical Reference

1. McKeon A, Lennon VA, Pittock SJ: Immunotherapy responsive dementias and encephalopathies. Continuum (Minneap Minn). 2010 Apr;16(2):80-101. doi: 10.1212/01.CON.0000368213.63964.34

2. Flanagan EP, McKeon A, Lennon VA, et al: Autoimmune dementia: clinical course and predictors of immunotherapy response. Mayo Clin Proc. 2010 Oct;85(10):881-897

3. Geschwind MD, Tan KM, Lennon VA, et al: Voltage-gated potassium channel autoimmunity mimicking Creutzfeldt-Jakob disease. Arch Neurol. 2008 Oct;65(10):1341-1346

4. Lancaster E, Martinez-Hernandez E, Dalmau J: Encephalitis and antibodies to synaptic and neuronal cell surface proteins. Neurology. 2011 Jul;77(2):179-189

5. Klein CJ, Lennon VA, Aston PA, et al: Insights from LGI1 and CASPR2 potassium channel complex autoantibody subtyping. JAMA Neurol. 2013 Feb;70(2):229-234

Performance

Method Description

Indirect Immunofluorescence Assay:

Before testing, patient's specimen is preabsorbed with liver powder to remove nonorgan-specific autoantibodies. After applying to a composite substrate of frozen mouse tissues (brain, kidney, and gut) and washing, fluorescein-conjugated goat-antihuman IgG is applied to detect the distribution and pattern of patient IgG binding.(Pittock SJ, Kryzer TJ, Lennon VA: Paraneoplastic antibodies coexist and predict cancer, not neurological syndrome. Ann Neurol. 2004 Nov;56(5):715-719; Honorat JA, Komorowski L, Josephs KA, et al: IgLON5 antibody: neurological accompaniments and outcomes in 20 patients. Neurol Neuroimmunol Neuroinflamm. 2017 Jul 18;4[5]:e385. doi: 10.1212/NXI.0000000000000385)

Radioimmunoassay:

Duplicate aliquots of patient specimen are incubated with I(125)-labeled antigen. Immune complexes, formed by adding secondary (goat)-antihuman immunoglobulin, are pelleted by centrifugation and washed. Gamma emission from the washed pellet is counted, and mean counts per minute (cpm) are compared with results yielded by high-positive and -negative control sera. Specimen yielding cpm higher than the background cpm yielded by normal human specimen are retested to confirm positivity and titrated as necessary to obtain a value in the linear range of the assay. The antigen binding capacity (nmol per liter) is calculated from the cpm precipitated at a dilution yielding a linear range value.(Griesmann GE, Kryzer TJ, Lennon VA: Autoantibody profiles of myasthenia gravis and Lambert-Eaton myasthenic syndrome. In: Rose NR, Hamilton RG, eds. Manual of Clinical and Laboratory Immunology. 6th ed. ASM Press; 2002:1005-1012; Walikonis JE, Lennon VA: Radioimmunoassay for glutamic acid decarboxylase [GAD65] autoantibodies as a diagnostic aid for stiff-man syndrome and a correlate of susceptibility to type 1 diabetes mellitus. Mayo Clin Proc. 1998 December;73[12]:1161-1166; Jones AL, Flanagan EP, Pittock SJ, et al: Responses to and outcomes of treatment of autoimmune cerebellar ataxia in adults. JAMA Neurol. 2015 Nov;72[11]:1304-1312 doi: 10.1001/jamaneurol.2015.2378)

Western Blot:

Neuronal antigens extracted aqueously from adult rat cerebellum, full-length recombinant human collapsin response-mediator protein-5 (CRMP-5), or full-length recombinant human amphiphysin protein is denatured, reduced, and separated by electrophoresis on 10% polyacrylamide gel. IgG is detected autoradiographically by enhanced chemiluminescence.(Yu Z, Kryzer TJ, Griesmann GE, et al: CRMP-5 neuronal autoantibody: marker of lung cancer and thymoma-related autoimmunity. Ann Neurol. 2001 February;49[2]:146-154; Dubey D, Jitprapaikulsan J, Bi H, et al: Amphiphysin-IgG autoimmune neuropathy: A recognizable clinicopathologic syndrome. Neurology. 2019 Oct 17 pii: 10.1212/WNL.0000000000008472. doi: 10.1212/WNL.0000000000008472)

Immunoblot:

All steps are performed at room temperature (18-28 degrees C) utilizing the EUROBlot One instrument. Diluted patient serum (1:12.5) is added to test strips (strips containing recombinant antigen manufactured and purified using biochemical methods) in individual channels and incubated for 30 minutes. Positive serums will bind to the purified recombinant antigen and negative serums will not bind. Strips are washed to remove unbound serum antibodies and then incubated with anti-human IgG antibodies (alkaline phosphatase-labelled) and incubated for 30 minutes. The strips are again washed to remove unbound anti-human IgG antibodies and nitroblue tetrazolium chloride/5-bromo-4-chloro-3-indolylphosphate (NBT/BCIP) substrate is added. Alkaline phosphatase enzyme converts the soluble substrate into a colored insoluble product on the membrane to produces a black band. Strips are digitized via picture capture on the EUROBlot One instrument and evaluated with the EUROLineScan software.(O'Connor K, Waters P, Komorowski L, et al: GABAA receptor autoimmunity: A multicenter experience. Neurol Neuroimmunol Neuroinflamm. 2019 Apr 4;6[3]:e552 doi: 10.1212/NXI.0000000000000552)

Cell-Binding Assay:

Patient specimen is applied to a composite slide containing transfected and nontransfected HEK-293 cells. After incubation and washing, fluorescein-conjugated goat-antihuman IgG is applied to detect the presence of patient IgG binding.(Package insert: IIFT: Neurology Mosaics, Instructions for the indirect immunofluorescence test. EUROIMMUN; FA_112d-1_A_UK_C13, 02/2019)

PDF Report

No

Day(s) Performed

GL1CS, IG5CS: Monday, Thursday

AGN1S, AMPHS, AMPIS, ANN1S, ANN2S, ANN3S, CRMS, DPPIS, DPPTS, GABIS, GFAIS, GFATS, GL1IS, GL1TS, IG5IS, IG5TS, NIFIS, NIFTS, NMDIS, PCAB2, PCABP, PCATR, ARBI, GD65S: Monday through Sunday

AMPCS, CS2CS, DPPCS, GABCS, LG1CS, NMDCS: Monday through Friday, Sunday

GFACS: Monday, Wednesday, Friday

CRMWS: Monday through Thursday

AGNBS, AMIBS, AN1BS, AN2BS, PC1BS, PCTBS: Monday through Friday

AINCS, NFHCS, NFLCS: Tuesday, Thursday

Report Available

10 to 13 days

Specimen Retention Time

28 Days

Performing Laboratory Location

Rochester

Fees and Codes

Fees

- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact Customer Service.

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

86255 x 18

86341

83519-ARBI (if appropriate)

84182-AGNBS (if appropriate)

86255-AINCS (if appropriate)

86256-AMPIS (if appropriate)

84182-AMIBS (if appropriate)

84182-AN1BS (if appropriate)

84182-AN2BS (if appropriate)

84182-CRMWS (if appropriate)

86255-DPPCS (if appropriate)

86256-DPPTS (if appropriate)

86256-GABIS (if appropriate)

86255-GFACS (if appropriate)

86256-GFATS (if appropriate)

86255-IG5CS (if appropriate)

86256-IG5TS (if appropriate)

86255-GL1CS (if appropriate)

86256-GL1TS (if appropriate)

86255-NFHCS (if appropriate)

86256-NIFTS (if appropriate)

86255-NFLCS (if appropriate)

86256-NMDIS (if appropriate)

84182-PC1BS (if appropriate)

86255-PCABP (if appropriate)

84182-PCTBS (if appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
DMS2	Dementia Autoimmune Eval, S	94696-2

Result ID	Test Result Name	Result LOINC Value
61516	NMDA-R Ab CBA, S	93503-1
61518	AMPA-R Ab CBA, S	93489-3
61519	GABA-B-R Ab CBA, S	93428-1
34255	Dementia, Interpretation, S	69048-7
64279	LGI1-IgG CBA, S	94287-0
64281	CASPR2-IgG CBA, S	94285-4
64930	DPPX Ab IFA, S	82976-2
64928	mGluR1 Ab IFA, S	94347-2
605155	GFAP IFA, S	94346-4
606946	IgLON5 IFA, S	96476-7
606964	NIF IFA, S	96486-6
89080	AGNA-1, S	94341-5
81722	Amphiphysin Ab, S	94340-7
80150	ANNA-1, S	94342-3
80776	ANNA-2, S	94343-1
83137	ANNA-3, S	94344-9
83077	CRMP-5-IgG, S	94815-8
81596	GAD65 Ab Assay, S	94345-6
83138	PCA-2, S	94351-4
83076	PCA-Tr, S	94352-2
36349	Reflex Added	77202-0