#### PATIENT REPORT

500 Chipeta Way, Salt Lake City, Utah 84108-1221 phone: 801-583-2787, toll free: 800-522-2787

Jonathan R. Genzen, MD, PhD, Chief Medical Officer

Patient Age/Sex: 37 years Female

Specimen Collected: 12-Jun-24 12:50				
Encephalitis Panel, CSF	Received: 12-Ju	n-24 12:50 R	eport/Verified: 12-Jun-24 14:35	
Procedure	Result	Units	Reference Interval	
West Nile Virus Antibody IgG (	CSF 3.50 H i1	IV	[<=1.29]	
West Nile Virus Antibody IgM (	CSF 3.50 H i2	IV	[<=0.89]	
Mumps Virus Antibody IgG CSF	3.0 <sup>i3</sup>	AU/mL	[<=10.9]	
Mumps Virus Antibody IgM CSF	3.50 H i4	IV	[<=0.79]	
VZV Antibody IgG CSF	3.0 <sup>i5</sup>	IV		
VZV Antibody IgM CSF	3.50 H i6	ISR	[<=0.90]	
Measles, Rubeola, Antibody IgG (	CSF 3.0 <sup>i7</sup>	AU/mL	[<=16.4]	
Measles, Rubeola, Antibody IgM (	CSF 3.00 H i8	AU	[0.00-0.79]	
HSV 1/2 Antibody Screen IgG,CS	SF 4.73 H 19	IV	[<=0.89]	
HSV Type 1 Ab IgG, CSF	Received: 12-Ju	n-24 12:50 R	eport/Verified: 12-Jun-24 15:21	
Procedure	Result	Units	Reference Interval	
HSV Type 1 Antibody IgG,CSF	5.03 H i10	IV	[<=0.89]	
HSV Type 2 Ab IgG, CSF	Received: 12-Ju	n-24 12:50 R	eport/Verified: 12-Jun-24 15:21	
Procedure	Result	Units	Reference Interval	
HSV Type 2 Antibody IgG,CSF	5.02 H ill	IV	[<=0.89]	

#### Test Information

il: West Nile Virus Antibody IgG CSF

INTERPRETIVE INFORMATION: West Nile Virus Ab IgG by ELISA, CSF

1.29 IV or less	Negative: No significant
	level of West Nile virus
	IgG antibody detected.
1.30 - 1.49 IV	Equivocal: Questionable
	presence of West Nile
	virus IgG antibody detected.
	Repeat testing in 10-14 days
	may be helpful.
1.50 IV or greater	Positive: Presence of IgG
	antibody to West Nile virus
	detected, suggestive of
	current or past infection.

This test is intended to be used as a semi-quantitative means of detecting West Nile virus-specific IgG in CSF samples in which there is a clinical suspicion of West Nile Virus infection. This test should not be used solely for quantitative purposes, nor should the results be used without correlation to clinical history or other data. Because other members of the Flaviviridae family, such as St. Louis encephalitis virus, show extensive cross-reactivity with West Nile virus, serologic testing specific for these species should be considered.

Unless otherwise indicated, testing performed at:
ARUP Laboratories
500 Chipeta Way, Salt Lake City, UT 84108
Laboratory Director: Jonathan R. Genzen, MD, PhD

 ARUP Accession:
 24-164-900051

 Report Request ID:
 19477283

 Printed:
 19-Jun-24 13:07

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<sup>\*=</sup>Abnormal, #=Corrected, C=Critical, f=Result Footnote, H-High, i-Test Information, L-Low, t-Interpretive Text, @=Performing lab

PATIENT REPORT

500 Chipeta Way, Salt Lake City, Utah 84108-1221 phone: 801-583-2787, toll free: 800-522-2787

Jonathan R. Genzen, MD, PhD, Chief Medical Officer

Patient Age/Sex: 37 years Female

## Test Information

il: West Nile Virus Antibody IgG CSF

The detection of antibodies to West Nile virus in cerebrospinal fluid may indicate central nervous system infection. However, consideration must be given to possible contamination by blood or transfer of serum antibodies across the blood-brain barrier.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i2: West Nile Virus Antibody IgM CSF

INTERPRETIVE INFORMATION: West Nile Virus Ab IgM by ELISA, CSF

0.89 IV or less ..... Negative - No significant level of West Nile virus IgM antibody

detected.

0.90-1.10 IV ...... Equivocal - Questionable presence of West Nile virus IgM antibody

detected. Repeat testing in 10-14 days may be helpful.

1.11 IV or greater ... Positive - Presence of IgM

antibody to West Nile virus detected, suggestive of current

or recent infection.

This test is intended to be used as a semi-quantitative means of detecting West Nile virus-specific IgM in CSF samples in which there is a clinical suspicion of West Nile virus infection. This test should not be used solely for quantitative purposes, nor should the results be used without correlation to clinical history or other data. Because other members of the Flaviviridae family, such as St. Louis encephalitis virus, show extensive cross-reactivity with West Nile virus, serologic testing specific for these species should be considered.

The detection of antibodies to West Nile virus in cerebrospinal fluid may indicate central nervous system infection. However, consideration must be given to possible contamination by blood or transfer of serum antibodies across the blood-brain barrier.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i3: Mumps Virus Antibody IgG CSF

INTERPRETIVE INFORMATION: Mumps Ab, IgG, CSF

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Laboratory Director: Jonathan R. Genzen, MD, PhD

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500 Chipeta Way, Salt Lake City, Utah 84108-1221 phone: 801-583-2787, toll free: 800-522-2787

Jonathan R. Genzen, MD, PhD, Chief Medical Officer

Patient Age/Sex: 37 years Female

# Test Information

i3: Mumps Virus Antibody IgG CSF

8.9 AU/mL or Less..... Negative - No significant level of detectable IgG mumps virus antibody.

9.0-10.9 AU/mL..... Equivocal - Repeat testing in 10-14

days may be helpful.

11.0 AU/mL or Greater.. Positive - IgG antibody to mumps

virus detected, which may indicate

a current or past mumps virus

infection.

The detection of antibodies to mumps virus in CSF may indicate central nervous system infection. However, consideration must be given to possible contamination by blood or transfer of serum antibodies across the blood-brain barrier.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i4: Mumps Virus Antibody IgM CSF

INTERPRETIVE INFORMATION: Mumps Virus Antibody, IgM, CSF

0.79 IV or less: Negative - No significant level of

detectable IgM antibody to mumps

virus.

0.80 - 1.20 IV: Equivocal - Borderline levels of IgM

antibody to mumps virus. Repeat

testing in 10-14 days may be helpful.

1.21 IV or greater: Positive - Presence of IgM antibody

to mumps virus detected, which may

indicate a current or recent

infection. However, low levels of IgM antibody may occasionally persist for more than 12 months post-infection or

immunization.

The detection of antibodies to mumps in CSF may indicate central nervous system infection. However, consideration must be given to possible contamination by blood or transfer of serum antibodies across the blood-brain barrier.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i5: VZV Antibody IgG CSF

INTERPRETIVE INFORMATION: VZV Ab, IgG, CSF

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Patient Age/Sex: 37 years Female

#### <u>Test Information</u>

i5: VZV Antibody IgG CSF

134.9 IV or Less .... Negative: No significant level of IgG antibody to varicella-zoster virus detected.

135.0 - 164.9 IV .... Equivocal: Repeat testing in 10-14 days may be helpful.

165.0 IV or Greater .. Positive: IgG antibody to varicella-zoster virus detected, which may indicate a current or past varicella-zoster infection.

The detection of antibodies to varicella-zoster in CSF may indicate central nervous system infection. However, consideration must be given to possible contamination by blood or transfer of serum antibodies across the blood-brain barrier.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i6: VZV Antibody IgM CSF

INTERPRETIVE INFORMATION: VZV Ab, IqM, CSF

0.90 ISR or less ...... Negative - No significant level of IgM antibody to varicella- zoster detected.

0.91 - 1.09 ISR ..... Equivocal - Repeat testing in 10-14 days may be helpful.

1.10 ISR or greater .... Positive - Significant level of IgM antibody to varicella-zoster virus detected, which may indicate current or recent infection. However, low levels of antibodies may occasionally persist for more than 12 months post-infection.

While the presence of IgM antibodies suggest current or recent infection, low levels of IgM antibodies may occasionally persist for more than 12 months post-infection.

The detection of antibodies to varicella-zoster in CSF may indicate central nervous system infection. However, consideration must be given to possible contamination by blood or transfer of serum antibodies across the blood-brain barrier.

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Patient Age/Sex: 37 years Female

#### Test Information

i6: VZV Antibody IgM CSF

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i7: Measles, Rubeola, Antibody IgG CSF

INTERPRETIVE INFORMATION: Measles (Rubeola) Antibody, IgG, CSF

13.4 AU/mL or less . . . . . Negative - No significant level of IgG antibody to measles (rubeola) virus detected.

13.5-16.4 AU/mL . . . . . . . . Equivocal - Repeat testing in 10-14 days may be helpful.

16.5 AU/mL or greater . . . . Positive - IgG antibody to measles (rubeola) detected, which may indicate a current or past exposure/immunization to measles (rubeola).

The detection of antibodies to rubeola in CSF may indicate central nervous system infection. However, consideration must be given to possible contamination by blood or transfer of serum antibodies across the blood-brain barrier.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i8: Measles, Rubeola, Antibody IgM CSF

INTERPRETIVE INFORMATION: Measles (Rubeola) Antibody, IgM, CSF

0.79 AU or less ...... Negative - No significant level of IgM antibody to measles (rubeola) virus detected.

0.80 - 1.20 AU ...... Equivocal - Repeat testing in 10-14 days may be helpful.

1.21 AU or greater ..... Positive - IgM antibodies to measles (rubeola) virus detected. Suggestive of current or recent infection. However, low levels of IgM antibodies may occasionally persist for more than 12 months

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Jonathan R. Genzen, MD, PhD, Chief Medical Officer

Patient Age/Sex: 37 years Female

### Test Information

i8: Measles, Rubeola, Antibody IgM CSF

post-infection.

The detection of antibodies to rubeola in CSF may indicate central nervous system infection. However, consideration must be given to possible contamination by blood or transfer of serum antibodies across the blood-brain barrier.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i9: HSV 1/2 Antibody Screen IgG, CSF

INTERPRETIVE INFORMATION: Herpes Simplex Virus Type 1 and/or 2 Antibodies, IgG CSF

0.89 IV or Less ......... Negative: No significant level of detectable HSV IgG

antibody.

0.90 - 1.09 IV ...... Equivocal: Questionable presence of IgG antibodies.

Repeat testing in 10-14 days

may be helpful.

1.10 IV or Greater ...... Positive: IgG antibody to  $\ensuremath{\mathsf{HSV}}$ 

detected, which may indicate

a current or past HSV

infection.

The detection of antibodies to herpes simplex virus in CSF may indicate central nervous system infection. However, consideration must be given to possible contamination by blood or transfer of serum antibodies across the blood-brain barrier.

Fourfold or greater rise in CSF antibodies to herpes on specimens at least 4 weeks apart are found in 74-94 % of patients with herpes encephalitis. Specificity of the test based on a single CSF testing is not established. Presently PCR is the primary means of establishing a diagnosis of herpes encephalitis.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

i10: HSV Type 1 Antibody IgG, CSF

INTERPRETIVE INFORMATION: Herpes Simplex Virus Type 1
Glycoprotein G-Specific Antibody,
IgG by ELISA, CSF

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Patient Age/Sex: 37 years Female

# Test Information

i10: HSV Type 1 Antibody IgG, CSF

0.89 IV or Less ..... Negative: No significant level of detectable IgG antibody to HSV type 1 glycoprotein G.

0.90 - 1.10 IV ..... Equivocal: Questionable presence of IgG antibody to HSV type 1. Repeat testing in 10-14 days may be helpful.

1.11 IV or Greater ... Positive: IgG antibody to HSV type 1 glycoprotein G detected, which may indicate a current or past infection.

Individuals infected with HSV may not exhibit detectable IgG antibody to type specific HSV antigens 1 and 2 in the early stages of infection. Detection of antibody presence in these cases may only be possible using a nontype-specific screening test.

The detection of antibodies to herpes simplex virus in CSF may indicate central nervous system infection. However, consideration must be given to possible contamination by blood or transfer of serum antibodies across the blood-brain barrier.

Fourfold or greater rise in CSF antibodies to herpes on specimens at least 4 weeks apart are found in 74-94 percent of patients with herpes encephalitis. Specificity of the test based on a single CSF testing is not established. Presently PCR is the primary means of establishing a diagnosis of herpes encephalitis.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

ill: HSV Type 2 Antibody IgG, CSF

INTERPRETIVE INFORMATION: Herpes Simplex Virus Type 2
Glycoprotein G-Specific Antibody,
IgG by ELISA, CSF

0.89 IV or Less ...... Negative: No significant level of detectable IgG antibody to HSV

type 2 glycoprotein G.

0.90 - 1.10 IV ...... Equivocal: Questionable presence of IgG antibody to HSV type 2.

Repeat testing in 10-14 days may

be helpful.

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Jonathan R. Genzen, MD, PhD, Chief Medical Officer

Patient Age/Sex: 37 years Female

# Test Information

i11: HSV Type 2 Antibody IgG, CSF

> 1.11 IV or Greater .... Positive: IgG antibody to HSV type 2 glycoprotein G detected, which may indicate a current or past HSV infection.

Individuals infected with HSV may not exhibit detectable IgG antibody to type specific HSV antigens 1 and 2 in the early stages of infection. Detection of antibody presence in these cases may only be possible using a nontype-specific screening test.

The detection of antibodies to herpes simplex virus in CSF may indicate central nervous system infection. However, consideration must be given to possible contamination by blood or transfer of serum antibodies across the blood-brain barrier.

Fourfold or greater rise in CSF antibodies to herpes on specimens at least 4 weeks apart are found in 74-94 percent of patients with herpes encephalitis. Specificity of the test based on a single CSF testing is not established. Presently PCR is the primary means of establishing a diagnosis of herpes encephalitis.

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