ARUP Laboratories

500 Chipeta Way – Salt Lake City, UT 84108 (800)522-2787 - www.aruplab.com Julio C. Delgado, M.D. M.S., Director of Laboratories Patient Age/Gender: Unknown Unknown Printed: 10-Dec-19 10:29:22

				_
Procedure West Nile Virus Antibody IgG CSF	Result 0.20	<u>Units</u> IV	Ref Interval [<=1.29]	Accession Collected Received Verified 19-344-900050 10-Dec-19 10-Dec-19 10-Dec-19 10-Dec-19 10:07:00 10:10:27
West Nile Virus Antibody IgM CSF	0.30	IV	[<=0.89]	19-344-900050 10-Dec-19 10-Dec-19 10:02:00 10:07:00 10:10:27
Mumps Virus Antibody IgG CSF	5.0	AU/mL	[<=10.9]	19-344-900050 10-Dec-19 10-Dec-19 10:02:00 10:07:00 10:10:27
Mumps Virus Antibody IgM CSF	0.05	IV	[<=0.79]	19-344-900050 10-Dec-19 10-Dec-19 10-Dec-19 10:02:00 10:07:00 10:10:27
VZV Antibody IgG CSF	22.0	IV		19-344-900050 10-Dec-19 10-Dec-19 10-Dec-19 10:02:00 10:07:00 10:10:27
VZV Antibody IgM CSF	0.02	ISR	[<=0.90]	19-344-900050 10-Dec-19 10-Dec-19 10-Dec-19 10:02:00 10:07:00 10:10:27
Measles, Rubeola, Antibody IgG CSF	2.1	AU/mL	[<=16.4]	19-344-900050 10-Dec-19 10-Dec-19 10-Dec-19 10:02:00 10:07:00 10:10:27
Measles, Rubeola, Antibody IgM CSF	0.20	AU	[0.00-0.79]	19-344-900050 10-Dec-19 10-Dec-19 10-Dec-19 10:02:00 10:07:00 10:10:27
HSV 1 and/or 2 Antibodies IgM, CSF	2.30 H	IV	[<=0.89]	19-344-900050 10-Dec-19 10-Dec-19 10-Dec-19 10:02:00 10:07:00 10:10:27
HSV 1/2 Antibody Screen IgG, CSF	5.59 Hf	IV	[<=0.89]	19-344-900050 10-Dec-19 10-Dec-19 10-Dec-19 10:02:00 10:07:00 10:10:27
HSV Type 1 Antibody IgG, CSF	2.40 н	IV	[<=0.89]	19-344-900050 10-Dec-19 10-Dec-19 10-Dec-19 10:02:00 10:07:00 10:11:18
HSV Type 2 Antibody IgG, CSF	1.30 н	IV	[<=0.89]	19-344-900050 10-Dec-19 10-Dec-19 10-Dec-19 10:02:00 10:07:00 10:11:18

10-Dec-19 10:02:00 HSV 1/2 Antibody Screen IgG, CSF:

HSV Type 1 and Type 2 Glycoprotein G-Specific Antibodies, IgG CSF to follow.

10-Dec-19 10:02:00 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.

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.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

Chart ID: 13636995 Page 1 of 7

^{*} Abnormal, # = Corrected, C = Critical, f = Footnote, H = High, L = Low, t = Interpretive Text, @ = Reference Lab

ARUP Laboratories 500 Chipeta Way – Salt Lake City, UT 84108

(800)522-2787 - www.aruplab.com Julio C. Delgado, M.D. M.S., Director of Laboratories Patient Age/Gender: Unknown Unknown Printed: 10-Dec-19 10:29:22

10-Dec-19 10:02:00 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.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

10-Dec-19 10:02:00 Mumps Virus Antibody IgG CSF: INTERPRETIVE INFORMATION: Mumps Ab, 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.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

10-Dec-19 10:02:00 Mumps Virus Antibody IgM CSF: INTERPRETIVE INFORMATION: Mumps Virus Antibody, IgM, CSF

Chart ID: 13636995 Page 2 of 7

^{*} Abnormal, # = Corrected, C = Critical, f = Footnote, H = High, L = Low, t = Interpretive Text, @ = Reference Lab

ARUP Laboratories

500 Chipeta Way - Salt Lake City, UT 84108 (800)522-2787 - www.aruplab.com Julio C. Delgado, M.D. M.S., Director of Laboratories ***Example Report***

Patient Age/Gender: Unknown Unknown Printed: 10-Dec-19 10:29:22

Negative - No significant level of 0.79 IV or less: detectable IgM antibody to mumps

virus.

0.80 - 1.20 IV: Equivocal - Borderline levels of IqM

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.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

10-Dec-19 10:02:00 VZV Antibody IgG CSF: INTERPRETIVE INFORMATION: VZV Ab, 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.

See Compliance Statement B: www.aruplab.com/CS

10-Dec-19 10:02:00 VZV Antibody IgM CSF: INTERPRETIVE INFORMATION: VZV Ab, IgM, 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 varicellazoster virus detected, which

may indicate current or recent

* Abnormal, # = Corrected, \mathbb{C} = Critical, \mathbb{f} = Footnote, \mathbb{H} = High, \mathbb{L} = Low, \mathbb{t} = Interpretive Text, @ = Reference Lab

Chart ID: 13636995 Page 3 of 7 ARUP Laboratories

500 Chipeta Way – Salt Lake City, UT 84108 (800)522-2787 - www.aruplab.com Julio C. Delgado, M.D. M.S., Director of Laboratories Patient Age/Gender: Unknown Unknown Printed: 10-Dec-19 10:29:22

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.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

10-Dec-19 10:02:00 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

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.

to measles (rubeola).

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

10-Dec-19 10:02:00 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

Chart ID: 13636995 Page 4 of 7

^{*} Abnormal, # = Corrected, C = Critical, f = Footnote, H = High, L = Low, t = Interpretive Text, @ = Reference Lab

ARUP Laboratories
500 Chipeta Way – Salt Lake City, UT 84108
(800)522-2787 - www.aruplab.com
Julio C. Delgado, M.D. M.S., Director of Laboratories

Patient Age/Gender: Unknown Unknown Printed: 10-Dec-19 10:29:22

persist for more than 12 months 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.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

10-Dec-19 10:02:00 HSV 1 and/or 2 Antibodies IgM, CSF: INTERPRETIVE INFORMATION: Herpes Simplex Virus

Type 1 and/or 2 Antibodies,

IgM by ELISA, CSF

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

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

Repeat testing in 10-14 days may be helpful.

1.10 IV or Greater Positive: IgM antibody to HSV

detected, which may indicate a current or recent infection. However, low levels of IgM antibodies may occasionally persist for more than 12 months post-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.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

10-Dec-19 10:02:00 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.

Chart ID: 13636995 Page 5 of 7

^{*} Abnormal, # = Corrected, C = Critical, f = Footnote, H = High, L = Low, t = Interpretive Text, @ = Reference Lab

ARUP Laboratories
500 Chipeta Way – Salt Lake City, UT 84108
(800)522-2787 - www.aruplab.com
Julio C. Delgado, M.D. M.S., Director of Laboratories

Patient Age/Gender: Unknown Unknown Printed: 10-Dec-19 10:29:22

1.10 IV or Greater Positive: IgG antibody to 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.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

10-Dec-19 10:02:00 HSV Type 1 Antibody IgG, CSF:
INTERPRETIVE INFORMATION: Herpes Simplex Virus Type 1
Glycoprotein G-Specific Antibody,
IgG by ELISA, 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.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

10-Dec-19 10:02:00 HSV Type 2 Antibody IgG, CSF: INTERPRETIVE INFORMATION: Herpes Simplex Virus Type 2

* Abnormal, # = Corrected, C = Critical, f = Footnote, H = High, L = Low, t = Interpretive Text, @ = Reference Lab

Chart ID: 13636995 Page 6 of 7

ARUP Laboratories 500 Chipeta Way – Salt Lake City, UT 84108 (800)522-2787 - www.aruplab.com Julio C. Delgado, M.D. M.S., Director of Laboratories

Patient Age/Gender: Unknown Unknown Printed: 10-Dec-19 10:29:22

	Glycoprotein G-Specific Antibody, IgG by ELISA, CSF
0.89 IV or Less	Negative: No significant level of detectable IgG antibody to HSV
0.90 - 1.10 IV	type 2 glycoprotein G. Equivocal: Questionable presence of IgG antibody to HSV type 2. Repeat testing in 10-14 days may
1.11 IV or Greater	be helpful. 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.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

* Abnormal, # = Corrected, C = Critical, f = Footnote, H = High, L = Low, t = Interpretive Text, @ = Reference Lab

Chart ID: 13636995 Page 7 of 7