Lab Dept: Serology

Test Name: EBV ANTIBODIES

General Information

Lab Order Codes:	EBVS
Synonyms:	Anti-EBV Antibodies; EBV Serology; Epstein Barr Virus Antibodies
CPT Codes:	86664 – EBV antibody, EBNA (IgG) 86665 x2 – EBV antibody, VCA (IgG and IgM)
Test Includes:	Anti-EBV Antibodies – Viral Capsid (VCA) IgG and IgM; Epstein Barr Nuclear Antigen (EBNA) - IgG

Logistics

Test Indications:	Intended for the qualitative detection of VCA -IgG; -IgM and EBNA -IgG antibodies to Epstein Barr Virus in human sera to indicate the following: no exposure to EBV or current or previous infection with EBV.
Lab Testing Sections:	Chemistry (Performed on St. Paul Campus)
Phone Numbers:	MIN Lab: 612-813-6280 STP Lab: 651-220-6550
Test Availability:	Daily, 24 hours
Turnaround Time:	1-3 days; testing is performed daily Mon-Fri during normal business hours
Special Instructions:	N/A

Specimen

Specimen Type:	Blood
Container:	SST (Gold, marble or red)
Draw Volume:	1 mL blood
Processed Volume:	0.25 mL serum
Collection:	Blood should be collected aseptically by venipuncture and placed in a sterile SST tube without anticoagulant and allowed to clot at room temperature.

Special Processing: Lab Staff: Centrifuge specimen as early as possible after the specimen has clotted; transfer serum to a plain polypropylene tube and refrigerate. If testing is delayed longer than 48 hours, serum should be frozen at -20ºC or colder. Do not store serum in a self-defrosting freezer.

Patient Preparation: None

Sample Rejection: Sera exhibiting a high degree of hemolysis; icterus; lipemia or microbial contamination because these conditions may cause aberrant results; mislabeled or unlabeled specimens

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Interpretive

Reference Range: The results will be reported as a numerical value with interpretation.

	VCA- IgG (U/mL)	VCA-IgM (U/mL)	EBN-1 IgG U/mL)
Negative	<18.0	<36.0	<18.0
Positive	> or = 22.0	> or = 44.0	> or = 22.0
Equivocal	18.0 – 21.9	36.0 – 43.9	18.0 – 21.9

Expected values: **Negative** – No exposure to EBV. No detectable IgG or IgM antibodies present.

Interpretation: Interpretation of EBV antibodies is based on the results of the EBV VCA-IgG, VCA-IgM and EBNA-IgG antibodies together to provide a comprehensive picture of EBV infection.

Condition	**VCA IgG**	**VCA IgM**	**EBNA-1 IgG**
EBV seronegative	-	-	-
Acute infection	+	+	-
Past infection	+	-	+

Acute Phase: VCA-IgM increases rapidly in early acute phase and is detectable before or concurrently with VCA-IgG and heterophile antibodies. VCA-IgM decreases during the late phase, but VCA-IgG persists.

Transitional Phase: VCA-IgM has decreased to low levels and approximately similar levels as EBNA-IgG, which is beginning to increase.

Convalescent Phase: VCA-IgM is very low to negative with EBNA-IgG increasing to high levels. Note: VCA-IgM has occasionally been detected into the convalescent phase.

Equivocal Result: "Borderline result" – suggest repeat specimen be obtained in 10-21 days.

Critical Values: N/A

Limitations: Positive results on EBV VCA-IgG and EBNA-IgG antibodies in neonates should be interpreted with caution, since maternal IgG is transferred passively from mother to baby before birth. IgM assays are generally more useful indicators of infection in children below the age of 6 months.

The clinical diagnosis must be interpreted with clinical signs and symptoms of the patient. The results from this kit are not by themselves diagnostic and should be considered in association with other clinical data and patient symptoms.

Results from immunosuppressed patients should be interpreted with caution. Assay performance characteristics have not been established for immunocompromised or immunosuppressed patients, cord blood, neonatal specimens or infants.

Diseases such as cytomegalovirus, toxoplasmosis and hepatitis may cause symptoms similar to infectious mononucleosis and must be excluded before making a diagnosis.

The combined use of EBV serological markers and clinical data is recommended when the diagnosis of EBV infection is based on a single serum specimen. A single result cannot be used for diagnosis. Accurate interpretation of EBV infection is based on results of EA(D) IgG, VCA IgM, VCA IgG, EBNA IgG, EBNA IgM and heterophile antibodies.

The performance characteristics have not been established for the diagnosis of nasophryngeal carcinoma, Burkitt's lymphoma, and other EBV-associated lymphomas.

Assay interference due to circulating antibodies against HIV and Hepatitis A, Hepatitis B and Hepatitis C viruses has not been evaluated.

Methodology: Chemiluminescent Immunoassay (CLIA)

References: Liason® EBNA IgG (08/2009) (310520), Directions for use, DioSorin, Inc., Stillwater, MN 55082

Liason® EBV IgM (12/22/2006) (310500), Directions for use, DiaSorin, Inc., Stillwater, MN 55082

Liason® VCA IgG (12/22/2006) (310510), Directions for use, DiaSorin, Inc., Stillwater, MN 55082

Update:

9/12/2005: Testing turnaround time previously listed as 1-6 days, testing performed 1 time per week.
8/15/2011: Testing method previously listed as Elisa. New instrumentation employed for testing. Note new reference ranges.
2/9/2016: Update container types