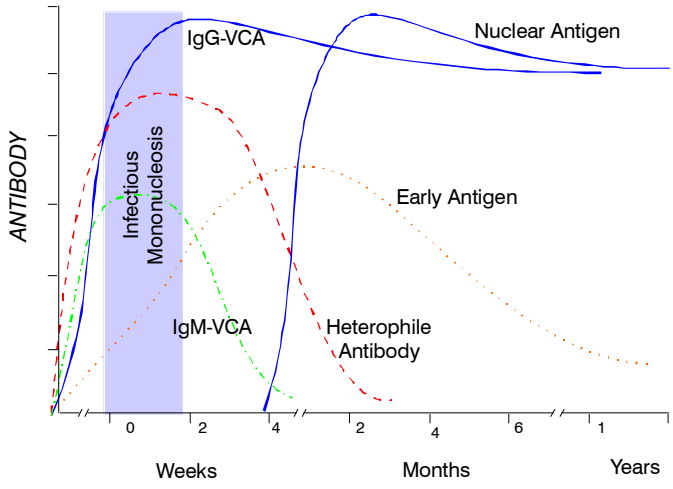
Epstein-Barr Virus VCA (IgG)
Enzyme Immunoassay

ImmunoWELL VCA IgG Test is an ELISA method for the qualitative detection of IgG antibody to Epstein-Barr Virus Viral Capsid Antigen (VCA) in human serum. When the VCA IgG test is used in conjunction with other testing such as the EBV nuclear antigen (EBNA-1), VCA IgM, and EBV early antigen tests and/or heterophile tests, the results can serve as an aid in the diagnosis of infectious mononucleosis (IM)

Expected Results

Interpretations of EBV serologies, unlike standard viral serologies on paired sera, are based on the differential profiles of antibodies in a single serum against multiple antigens. During the acute phase of Infectious Mononucleosis (IM), IgG and IgM responses to viral capsid antigen complex (VCA) are rapid and occur almost simultaneously. VCA-IgM antibodies are reliably detectable only during primary infections. Due to the variable incubation period and intensity of symptoms, by the time patients consult their physicians, nearly all have reached peak titers of IgG. In general, both IgG and IgM become detectable within 2–3 weeks of onset and peak at 4–6 weeks. VCA-IgM disappears rapidly thereafter, while IgG wanes slightly and then varies little for life.

EBNA IgG response often can yield valuable information as to the patient's underlying problems since 10–15% of the IM patients have no detectable VCA-IgM response by the time of the first serum collection. EBNA antibodies are absent during the acute phase. Their gradual appearance begins during the first to second month after onset, persisting for life. Hence, VCA-IgG antibodies found with low titer or no anti-EBNA indicates acute IM phase serum, whereas VCA-IgG antibodies in the presence of peak titer anti-EBNA indicate a later infection.



Performance Characteristics

To assure consistent performance, lots are tested using internationally recognized standards (Boston Biomedical Inc, BBI). This serum panel consists of twenty-five samples representing all disease stages and has been validated by independent, third party organizations. These data are available on request.

Ordering Information

Product Description	Quantity	GenBio Product No.
***ImmunoWELL* EBV VCA IgG Test**	1 kit / 96 wells	3250
Also available from GenBio		
***ImmunoWELL* EBV EA (D) IgG Test**	1 kit / 96 wells	3240
***ImmunoWELL* EBV VCA IgM Test**	1 kit / 96 wells	3560
***ImmunoWELL* EBV EBNA IgG Test**	1 kit / 96 wells	3270

Principle

The ***ImmunoWELL*** Test utilizes an EIA microtiter plate technique for the detection of antibodies. Serum is added to antigen coated microtiter wells and allowed to react. After removal of unbound antibodies, horseradish peroxidase-conjugated antihuman IgG antibodies are allowed to react with bound antibodies. The bound peroxidase reacts with tetramethylbenzidine (TMB), the chromogenic substrate, developing a color. Finally, the substrate reaction is stopped and the optical density is read with a microwell spectrophotometer.

Procedural Summary

1. Prepare Wash Buffer from Wash Buffer Concentrate
2. Dilute each control and specimen 1:100 in Specimen Diluent
3. Add 100 μL of Specimen Diluent into the first well as a substrate blank.
4. Add 100 μL of prediluted Calibrators, diluted Controls and Specimens to coated microwells and incubate 60 min at room temperature
5. Aspirate wells and wash microwells three times with Wash Buffer
6. Add 100 μL of Conjugate to wells and incubate 30 minutes at room temperature
7. Aspirate microwells and wash wells three times with Wash Buffer
8. Add 100 μL of Substrate to wells and incubate 30 minutes at room temperature
9. Add 100 μL Stop Solution to wells and read results at 450nm

References

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2. Lennette, E.T., *Diagnosis of Epstein-Barr Virus Infections,* pp.257-271, In E.H. Lennette (ed.), Laboratory Diagnosis of Viral Infections, Dekker Publishing, New York (1985).
3. Lennette, E.T.,*Epstein-Barr Virus,* pp.905-910, In P.R. Murray (ed.), Manual of Clinical Microbiology, ASM Press Publishing, Washington, D.C. (1995).
4. Sumaya, C.V., Jenson, H.B., *Epstein-Barr Virus,* pp.568-575, In N.R. Rose (ed.), Manual of Clinical Laboratory Immunology, ASM Press Publishing, Washington, D. C. (1992).

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