The following tests are routinely used in the serologic diagnosis of syphilis:

1. **RPR (Rapid Plasma Reagin Card Test)** - Performed at Sinai Hospital Laboratory
   - Screening test performed on patients if ordered by the physician.

   False positive reactions (biologic false positive) may occur in the following situations:
   - Immunization/vaccination (especially smallpox)
   - Viral infections of the upper respiratory tract
   - Atypical pneumonia
   - Rubella
   - Chickenpox
   - Infectious Mononucleosis
   - Certain drugs, e.g., hydralazine
   - Pregnancy
   - Elderly patients
   - Autoimmune diseases, e.g. SLE, RA
   - IVDA
   - Leprosy, malaria and other tropical diseases

   False negative reactions are frequently seen in tertiary syphilis and in patients who have been treated.

   All sera giving a positive RPR reaction are submitted to the State Laboratory for confirmation and more specific testing (Syphilis IgG/IgM EIA).

2. **Syphilis IgG/IgM EIA**

   Most specific and sensitive test used in the diagnosis of all stages of syphilis
   - Routinely performed by State Laboratory on all RPR-Positive sera.
   - Test used for confirmation of diagnosis of syphilis.

   Reactions found to be positive on RPR or VDRL, but negative on Syphilis IgG/IgM, are considered to be false positive reactions due to causes other than syphilis.

   A positive Syphilis IgG/IgM test indicates, with very rare exceptions, that the patient has or has had syphilis. Clinical staging of the disease must be determined.
by history and physical examination. Once the test is positive, it usually remains positive for years, sometimes the life of the patient, despite therapy and cure of the disease.

False positive reactions (Positive Syphilis IgG/IgM EIA in diseases other than syphilis) occur rarely and have been reported mostly in diseases associated with increased or abnormal globulins, including SLE, rheumatoid arthritis, lymphoma with autoimmune hemolytic anemia, alcoholic cirrhosis, and pregnancy.

Syphilis IgG/IgM EIA test should not be done on CSF (test not reliable when done on CSF; false positive results are frequent. VDRL is the test to order on CSF).

3. VDRL (Venereal Disease Research Laboratory Test)
   Performed by Siani Hospital Laboratories on CSF only!
   Most useful when done on CSF of patients suspected of having neurosyphilis since biological false positives are very rare.
   A positive CSF-VDRL indicates past or present CNS syphilis.
   A negative test R/O CNS syphilis.
   VDRL results are reported as the highest dilution of patient’s serum that will give a positive reaction, e.g., 1:32.
   A change in the titer is more informative than the level of antibodies present at a given moment.