

Syphilis EIA	RPR	TPPA	Interpretation	Recommended action
Non-reactive/ Negative	Not done	Not done	Not a case. Early incubating syphilis cases may be negative when tested prior to development of an antibody response. No additional testing done by lab if syphilis EIA negative.	Repeat serology ¹ <i>if at risk for syphilis</i>
Reactive/ Positive	Non-reactive	pending	Case or biological false positive (BFP).	Await TPPA result. If TPPA is non-reactive (negative), repeat serology ¹ <i>if at risk for syphilis</i> to rule out early seroconversion.
Reactive/ Positive	Non-reactive	Non-reactive/ Negative	Early seroconversion or BFP	Repeat serology ¹ <i>if at risk for syphilis</i>
Reactive/ Positive	Non-reactive	Indeterminate	Case or BFP.	Repeat serology ¹ If repeat serology unchanged, may be a BFP; discuss with STI Services, Tel: 780-735-1466 or 1-888-535-1466
Reactive/ Positive	Non-reactive	Reactive/ Positive	Case	Case investigation ² including repeat serology. Contact STI Services, Tel: 780-735-1466 or 1-888-535-1466
Reactive/ Positive	Reactive	pending	Highly likely to be a case.	Await TPPA result. Depending on clinical situation, patient may require treatment; please contact STI Services, Tel: 780-735-1466
Reactive/ Positive	Reactive	Non-reactive/ Negative	BFP or early disease	Repeat serology ¹
Reactive/ Positive	Reactive	Indeterminate	Highly likely to be a case. If repeat serology unchanged = BFP	Repeat serology ¹ Depending on clinical situation, patient may require treatment; please contact STI Services, Tel: 780-780-735-1466
Reactive/ Positive	Reactive	Reactive/ Positive	Case	Case investigation ² . Contact STI Services, Tel: 780-735-1466 or 1-888-535-1466

EIA = Enzyme Immunoassay, RPR = Rapid Plasma Reagin, TPPA = *Treponema pallidum* Particle Agglutination

Notes:

¹Repeat serology typically repeated at 2-3 weeks after initial test to observe for rise in RPR titre or EIA/TPPA seroconversion.

²Case investigation:

- Basic demographics (e.g. age, gender, ethnicity, etc.)
- Previous history of syphilis or treatment for syphilis?
- Sexual preference?
- Pregnant?
- Presence or absence of symptoms?
- Sexual history?
- Place of residence/travel?

Prepared by:

Petra Smyczek, Provincial Medical Director, STI Centralised Services, Alberta Health Services, and

Prenilla Naidu, Medical Microbiologist, STI Program Lead, Provincial Laboratory for Public Health