

FRANCISELLA TULARENSIS RULE-OUT EVALUATION

General Sample Information

Evaluator(s):

Evaluation date(s):

Submitting Sentinel Clinical Laboratory:

Laborarian being evaluated (if known):

Initial sample source:

Within Clinical Lab

Initial sample accessioning date/time:

Initial sample processing date/time:

Initial sample work-up complete date/time:

Notification to LRN Reference Laboratory

Notification sent Date:

Time:

No notification provided

Sample sent to LRN Ref. Lab:

Primary specimen

Isolate

Other:

Date shipped to LRN Ref. Lab:

Date received:

Sample shipped to LRN Ref. Lab as:

Category B

Category A

Unsure

Other:

Was sample shipped appropriately?

Yes

No

Unsure

Rule-out test requested:

Microscopy

Was a Gram stain performed?

No

Yes

If yes, from:

Primary specimen

Culture

Result:

Gram positive

Gram negative

Undetermined

Gram stain characteristics:

Is the Gram stain result consistent with the rule-out organism?

Yes

No

Was another stain performed?

No

Yes

If yes, from:

Primary specimen

Culture

What type of other stain:

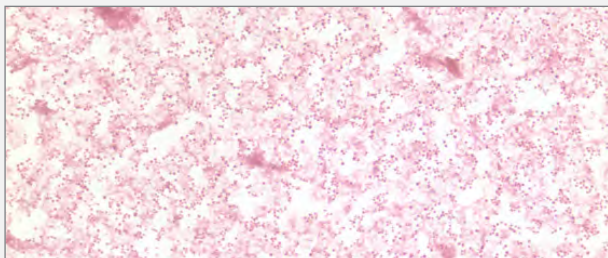
Describe characteristics:

Is the other stain result consistent with the rule-out organism?

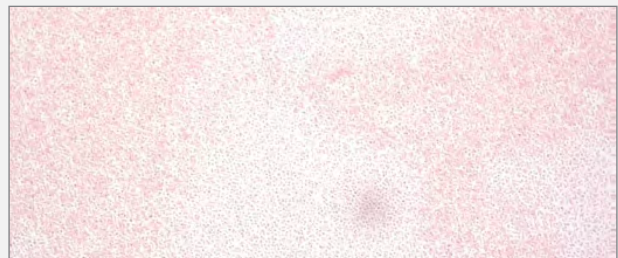
Yes

No

***F. tularensis*:** Tiny, Gram negative coccobacilli (0.2-0.5 µm x 0.7-1.0 µm). Poor counterstaining with safranin (basic fuchsin counterstain may increase resolution). Pleomorphic. Mostly single cells.



Gram Stain



Gram Stain of Blood Culture

Culture Characteristics/Description

SBA/BAP (Sheep Blood Agar/Blood Agar Plate)

			Set up	Not Setup
Growth:	Hemolysis:	Temperature:	Colony description and other notes:	
24h growth	Alpha	25°C		
48h growth	Beta	37°C		
72h growth	Gamma	42°C		
No growth	(non-hemolytic)			

CHOC (Chocolate Agar)

			Set up	Not Setup
Growth:	Temperature:	Colony description and other notes:		
24h growth	25°C			
48h growth	37°C			
72h growth	42°C			
No growth				

MAC (MacConkey Agar)

			Set up	OR	EMB (Eosin Methylene Blue Agar)	Set up	Neither Setup
Growth:	Temperature:	Colony description and other notes:					
24h growth	25°C						
48h growth	37°C						
72h growth	42°C						
No growth							

TM/MTM (Thayer Martin/Modified Thayer Martin Agar)

			Set up	Not Setup
Growth:	Temperature:	Colony description and other notes:		
24h growth	25°C			
48h growth	37°C			
72h growth	42°C			
No growth				

BCYE/Legionella (Buffered Charcoal Yeast Extract Agar)

			Set up	Not Setup
Growth:	Temperature:	Colony description and other notes:		
24h growth	25°C			
48h growth	37°C			
72h growth	42°C			
No growth				

Cysteine Heart Agar (CHA)

			Set up	Not Setup
Growth:	Temperature:	Colony description and other notes:		
24h growth	25°C			
48h growth	37°C			
72h growth	42°C			
No growth				

Other:

			Set up	Not Setup
Growth:	Temperature:	Colony description and other notes:		
24h growth	25°C			
48h growth	37°C			
72h growth	42°C			
No growth				

Francisella tularensis Rule-out Evaluation

***F. tularensis*:** Aerobic, fastidious, does not require CO₂. No growth on MAC or EMB. Scant or no growth on BAP; may grow on primary culture, not well on subculture. Slow growing on CHOC, TM or BCYE: 1-2 mm after 48h. Colonies are opaque, grey-white, butyrous with smooth and shiny surface.



48h BAP



48h CHOC

Is the culture consistent with the rule-out organism?

Yes

No

No cultures performed

Rule-out Testing

Test	<i>F. tularensis</i>	Rule-out Sample			
		Positive	Negative	Undetermined	Not Performed
Beta-lactamase	Positive				
Catalase	Negative or weakly positive				
Motility	Non-motile				
Oxidase	Negative				
Urease	Negative				
Staph-streak Satellite	Negative or no growth				
X & V Factor	Not required				
Other:					

Are the test results consistent with the rule-out organism?

Yes

No

No rule-out tests performed

Rapid, Automated and Molecular Testing

Test/Platform	Yes	No	Result
API			
BioFire			
MALDI TOF			
Microscan			
PCR			
Phoenix			
VITEK			
Other:			

Are the test results consistent with the rule-out organism?

Yes

No

None performed

Susceptibility Testing

Note: Routine susceptibility testing is not a recommended sentinel clinical laboratory procedure.

Antibiotic	<i>F. tularensis</i>	Zone/ Susceptible	No Zone/ Resistant	Indeterminate	Not Performed
Beta-lactamase	Positive				
Other:					
Other:					

Are the test results consistent with the rule-out organism?	Yes	No	No susceptibility tests performed
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Other Items of Consideration

	Yes	No	Unsure
Were the LRN Sentinel Level Clinical Laboratory Protocols followed?			
Are the patient symptoms / clinical presentation consistent with rule-out organism sent for testing?			
If any samples remained at the submitting clinical laboratory, were they kept secured?			
If any samples remained at the submitting clinical laboratory, were they sealed and marked with a precautionary hazard warning (e.g., brightly colored distinguishing tape)?			
Were all remaining samples transferred from submitting laboratory(ies) to LRN Reference Laboratory?			
Were all remaining samples at submitting laboratory(ies) destroyed?			
Was the related sample waste handled and disposed of properly?			
Are there any safety or exposure concerns at the submitting laboratory(ies)? All potential exposures to a select agent require an APHIS/CDC Form 3 .			
Has the LRN Reference Laboratory completed Sections A and B of the required CDC/APHIS Form 4? All identified select agents require an APHIS/CDC Form 4 .			
Has the submitting laboratory(ies) completed Sections C and D of the required CDC/APHIS Form 4? All identified select agents require an APHIS/CDC Form 4 .			

Possible Misidentifications for *Francisella tularensis*

Organism	Differential Test
<i>Acinetobacter</i> spp.	Growth on MAC, oxidase negative
<i>Aggregatibacter</i> spp.	Catalase positive, β -lactamase negative
<i>Haemophilus</i> spp.	Oxidase positive, requires X & V factors
<i>Haemophilus influenzae</i>	Satellite or X&V positive
<i>Bordetella</i> Grp. IV	Inert, urease positive
<i>Pasteurella</i> spp.	Non-sticky, growth on MAC
<i>Dysgonomonas</i> spp.	Colonies measure 1 to 2 mm in diameter after 24 h of growth, have a distinct strawberry-like odor (do NOT sniff plates).
<i>Brucella</i> spp.	Oxidase, urease and catalase positive
<i>Psychrobacter phenylpyruvicus</i>	Oxidase positive
<i>Oligella ureolytica</i>	Oxidase positive

Common Misidentifications

May not be identified in common automated ID systems, including MALDI TOF, and possible misidentifications may include: *Aggregatibacter actinomycetemcomitans*, *Haemophilus influenzae*, *Oligella* spp. and *Psychrobacter* spp.

Final Results

LRN Reference Laboratory test result:

LRN Reference Laboratory test result date:

Protocol Adherence

Submitting lab followed [LRN Sentinel Level Clinical Laboratory Protocols](#) accordingly

Submitting lab did not follow [LRN Sentinel Level Clinical Laboratory Protocols](#) accordingly

Overall Assessment

No follow up needed

Follow up with submitting lab(s) needed. Recommended follow up: