

### Intended Audience

The intended audience of this message is laboratorians, laboratory supervisors, and infection control and prevention staff responsible for identification and reporting of *Brucella* species from clinical specimens.

### Purpose of this Message

To ensure that individuals are aware and prepared for the removal of *Brucella* from the Select Agent and Toxin list.

### Background

On **January 16, 2025** *Brucella* species (*abortus*, *melitensis*, and *suis*) will be removed from the Federal Select Agent and Toxins list. *Brucella canis* was not previously listed as a Select Agent. The Federal Select Agents and Toxins list is maintained by the Department of Health and Human Services (HHS) and United States Department of Agriculture (USDA). Agents and toxins are added or removed from the Select Agent or Toxin list based on four main criteria: 1) Effect on human health, 2) Degree of contagiousness, 3) Availability and effectiveness of pharmacotherapies, and 4) Other criteria, including decontamination and restoration, matrix stability, and ease of production. In 2020, CDC published an advance notice of proposed rulemaking seeking comments on potential changes to the current list of HHS/USDA Select Agents and Toxins. Comments received from the public broadly supported removal of *Brucella* species from the Select Agent and Toxins list due to the low-mortality rate associated with infection, rare human-to-human transmission, and availability of therapeutics. Working with *Brucella* species on the benchtop continues to be a major risk of laboratory acquired infections (see <https://www.cdc.gov/brucellosis/hcp/laboratory-risks/> ). Removal of *Brucella* species from the Select Agent and Toxin list **does not** reverse previously established biosafety measures.

### Action Item

Clinical labs should continue to:

1. Report all suspected and confirmed cases of Brucellosis to the Iowa Health and Human Services, Center for Acute Disease Epidemiology.
2. Send suspect, unconfirmed *Brucella* species isolates to SHL for confirmation and speciation using the Special Pathogens Test Request Form, shipping isolates Category A (refer to *Brucella* Identification flowchart on page 2)
3. Work with all suspect *Brucella* species isolates in a Biosafety Cabinet (BSC) with appropriate PPE which includes, gloves, gown, and eye protection.

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### Brucella Identification Flowchart

**SAFETY:** As soon as *Brucella* is suspected, perform ALL further work in a Class II Biosafety Cabinet (BSL3)

**Major Characteristics of *Brucella* species**  
**Gram Stain Morphology:** Small (0.4 x 0.8 μm), Gram-negative coccobacillus  
**THINK BRUCELLA**

**Growth:** Subculture positive aerobic blood culture bottle to:  
 BAP, CHOC  
 Incubate in 5-10% CO<sub>2</sub> at 35°C

Spot BAP with *S. aureus* ATCC 25923 for satellite test.

Note poorly growing colonies after 24 hours incubation on BAP and CHOC.  
 Incubate plates for at least 2 additional days if no growth in 24 hours.  
 Organism does not grow on MAC.

Is the organism only growing on BAP without the need to satellite around the *S. aureus* at 24-48 hours?

No → Consider *Haemophilus*

Yes

Oxidase positive and catalase positive?

No → Think *Francisella* (see procedure)

Yes

Urea positive?

No → Reincubate and see written procedure

Yes

*Brucella* not ruled out.  
 Send to LRN Reference Level Laboratory.  
 Inform physician that *Brucella* species cannot be ruled out.

Antimicrobial therapy: Rifampin or Streptomycin plus Doxycycline

**Note:** Biochemical test procedures and quality control instructions can be found at the end of the *General Recommendation and Biochemical Testing Procedures* document.