Pathogen Safety Data Sheet

Section 1 - Infectious Agent

Agent Name: **Lactobacillus delbrueckii**

Agent Type: Bacteria

Taxonomy:

Family: Lactobacillaceae Genus: Lactobacillus

Species: *L. delbrueckii*

Subspecies/Strain/Clonal Isolate:

Synonym/Cross Reference

Characteristics

Brief Description: Lactobacilli are non-spore-forming, gram-positive bacilli that produce lactic acid from glucose fermentation. Most species of lactobacilli are facultatively anaerobic or microaerophilic and are typically catalase and oxidase negative. Lactobacilli also do not produce H2S or reduce nitrate to nitrite.

Properties: Lactobacilli are part of the normal bacterial flora of the human vagina, gastrointestinal tract, and oropharynx.

Section 2 - Hazard Identification

Pathogenicity/Toxicity

Lactobacilli are generally considered to be of low virulence, rarely causing infection in humans. Lactobacillus sp. bacteremia has been described primarily in immunocompromised patients following dental manipulations, oral trauma, or endoscopic procedures and as a result of both gastrointestinal tract fistulas and gynecologic neoplasms. Subsequent development of endocarditis has been observed in bacteremic patients with preexisting valvular defects. Lactobacilli have also been shown to cause neonatal meningitis after vertical transmission of organisms from mother to infant during birth.

Predisposing Factors: Compromised immune system; pre-existing valvular defects.

Communicability

Vertical transmission of the organism from mother to infant during birth has been documented.

Epidemiology

World-wide - part of the normal bacterial flora of the human vagina, gastrointestinal tract and oropharynx.

Host Range

Natural Host(s): Human.

Other Host(s): Not applicable.

Infectious Dose

Unknown.

Incubation Period

Unknown.

Section 3 - Dissemination

Reservoir

Human

Vectors
None.

Zoonosis / Reverse Zoonosis
None.

Section 4 - Dissemination

Drug Susceptibility
Susceptible to clarithromycin

Drug Resistance
Unknown

Susceptibility to Disinfectants
70% ethyl alcohol or 0.125% glutaraldehyde, all with a contact time of 1 minute or 5mg/L of hypochlorite with a contact time of 5 minutes.

Physical Inactivation
Inactivated by heat (100 degrees C for 1 min.) and gamma irradiation.

Survival Outside Host
Unknown

Section 5 - First Aid and Medical

Surveillance
Infection can be confirmed by culturing and identification of bacteria from the infection site. Note: All diagnostic methods are not necessarily available in all countries

First Aid / Treatment
Antibiotic therapy may be required in more serious cases particularly in young, elderly or immunocompromised patients.

Immunization
None.

Prophylaxis
None.

Section 6 - Laboratory Hazards

Laboratory Acquired Infections
None reported.

Sources / Specimens
Not applicable

Primary Hazards
None

Special Hazards
None

Section 7 - Exposure Controls and Personal Protection

Risk Group Classification

What is the Risk Group classification in humans and animals for the pathogen?

Human Risk Group Classification RG1 Animal Risk Group Classification RG1

Containment Requirements

Containment Level: CL1

Containment Zone Requirements:

Containment Level 1 facilities, equipment, and operational practices for work involving infectious or potentially infectious materials, animals, or cultures.

Protective Clothing

Lab coat. Gloves when direct skin contact with infected materials or animals is unavoidable. Eye protection must be used where there is a known or potential risk of exposure to splashes.
If there are no special hazards for this agent enter “none”.

Other Precautions

All procedures that may produce aerosols, or involve high concentrations or large volumes should be conducted in a biological safety cabinet (BSC). The use of needles, syringes, and other sharp objects should be strictly limited. Additional precautions should be considered with work involving animals or large scale activities.

Section 8 - Handling and Storage

Spills

Allow aerosols to settle. Wearing protective clothing, gently cover the spill with absorbent paper towel and apply suitable disinfectant, starting at the perimeter and working towards the centre. Allow sufficient contact time before clean up.

Disposal

Decontaminate all wastes that contain or have come in contact with the infectious organism by autoclave, chemical disinfection, gamma irradiation, or incineration before disposing.

Storage

The infectious agent should be stored in appropriately labelled leak-proof containers in a locked area. Containers of infectious material or toxins stored outside the containment zone must be labelled, leakproof, impact resistant, and kept either in locked storage equipment or within an area with limited access.

Section 9 - Regulatory Information

The import, transport, and use of pathogens in Canada is regulated under many regulatory bodies, including the Public Health Agency of Canada, Health Canada, Canadian Food Inspection Agency, Environment Canada, and Transport Canada. Users are responsible for ensuring they are compliant with all relevant acts, regulations, guidelines, and standards.

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Revisions were made to Sections:

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References

Risk Group determination from "PHAC Biological Agent Search".

Darbro, B.W., et. al., Lactobacillus delbrueckii as the cause of urinary tract infection. (2009) J. Clin. Microbiol. 47(1): 275-277.