



INFORMATION SHEET

PASTEURELLA PNEUMOTROPICA

CLASSIFICATION

Family: *Pasteurellaceae*

- Gram-negative bacteria
- Coccobacillus shaped
- Non-haemolytic
- Non-motile

PREVALENCE

More commonly found in mice and rats, but can also be found in guinea pigs, hamsters and gerbils. Natural infection has not been reported but is expected to be common. Infection in conventional and barrier-maintained facilities is quite frequent and widely distributed.

DIAGNOSIS

Can be detected by culturing on bacteriology agar plates or specific PCR using nasopharyngeal wash, vaginal wash and/or intestinal samples.

DISEASE/CLINICAL SIGNS

Generally asymptomatic. Clinical symptoms have been reported in immunocompromised rodents such as:

- Subcutaneous abscess
- Retro-orbital infections
- Retrobulbar abscess
- Rhinitis
- Otitis
- Conjunctivitis
- Cervical lymphadenitis
- Uterine infection
- Dacryoadenitis

Co-infection with other pathogens have been reported to show suppurative bronchopneumonia and exacerbate respiratory disease.

STRAINS

Many different strains continue to be isolated since 1950, particularly in mice and rats and therefore it is not known how many truly exist. Hayashimoto N. *et al.* (2005) used 37 strains for their studies which included 17 mice, 13 rats, 3 hamsters, 1 rabbit and 1 guinea pig. Sasaki *et al.* (2009) isolated 44 strains from mice and rats in their studies, where they suggest evidence that strains can be divided into host dependent and host independent.



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TRANSMISSION

The main route of transmission is via direct contact or contact with secretions. Cage to cage transmission can occur by fomite from contaminated bedding, feed or cage surfaces.

INTERFERENCE WITH RESEARCH

It has been reported that infection with *P. pneumotropica* causes slight changes in cytokine gene expression in C57BL/6 mice. Hence, the use of infected animals are likely to interfere with many molecular research studies. Being an opportunistic bacteria, immunocompromised animals are at risk of illness and may show clinical symptoms when infected. Therefore, *P. pneumotropica* infected immunocompromised animals should be excluded from research studies. (remove or give more information here)

DURABILITY

Short-lived in the environment. Susceptible to drying and high level disinfectant (such as F10).

CONTROL

Maintain regular (quarterly) health monitoring of all animals in both conventional and barrier-maintained facilities.

POST INFECTION

A regimen of Enrofloxacin antibiotic in drinking water (e.g. 25.5mg/kg daily for 2 weeks) is shown to be effective in mice. Embryo transfer is recommended over hysterectomy derivation due to significantly high chances of contamination from infected uterine tissue.

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