



SPIRONUCLEUS MURIS

CLASSIFICATION

Order: Diplomonadida

Family: Hexamitidae

Genus: Spironucleus

- Intestinal, flagellated protozoa
- Anaerobic
- Direct life cycle
- Cyst form (7-4 µm) - infective stage
- Motile trophozoite form (10-15 x 3-4 µm) – slender tapered body with 4 flagella pairs
- Trophozoites- found in small intestine, cysts found mainly in caecum, colon and faeces

PREVALENCE

The suggested prevalence of *Spironucleus muris* in laboratory and wild mouse populations ranges from 4 to 39%.

DIAGNOSIS

Direct microscopy, faecal float

DISEASE/CLINICAL SIGNS

S. muris infections generally do not cause clinical symptoms in immunocompetent mice. However, weanling and immunodeficient mice may present with clinical symptoms and large numbers of *S. muris* are often an indicator to an underlying disease or infection such as an MHV infection.

Clinical symptoms:

- diarrhoea
- dehydration
- weight loss
- rough coat
- lethargy
- abdominal distension
- hunched posture
- can result in death



INFORMATION SHEET

STRAINS

There are 12 strains of *Spironucleus species* infecting a variety of fish, amphibians and birds, but *S. muris* only infects rodents.

TRANSMISSION

S. muris is transmitted between mice and other rodents through the faecal-oral route. The minimum infectious dose for a mouse is 1 cyst.

INTERFERENCE WITH RESEARCH

Effects include but are not limited to:

- increasing the severity of copathogen infection
- increasing mortality with cadmium treatment
- altering macrophage function

DURABILITY

Chemotherapeutic elimination of trophozoites and cysts in animals has not been successful.

Cysts shed in the environment are susceptible to common disinfectants, 70% ethanol, bleach, temperatures above 45°C.

CONTROL

Maintain regular health monitoring of supplier sub-populations and strict protocols for barrier colonies. Exclude wild mice from facility.

POST INFECTION

Rederivation can be used to repopulate rodent colonies.

BIBLIOGRAPHY

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