

# **Blastocystis hominis (a)**

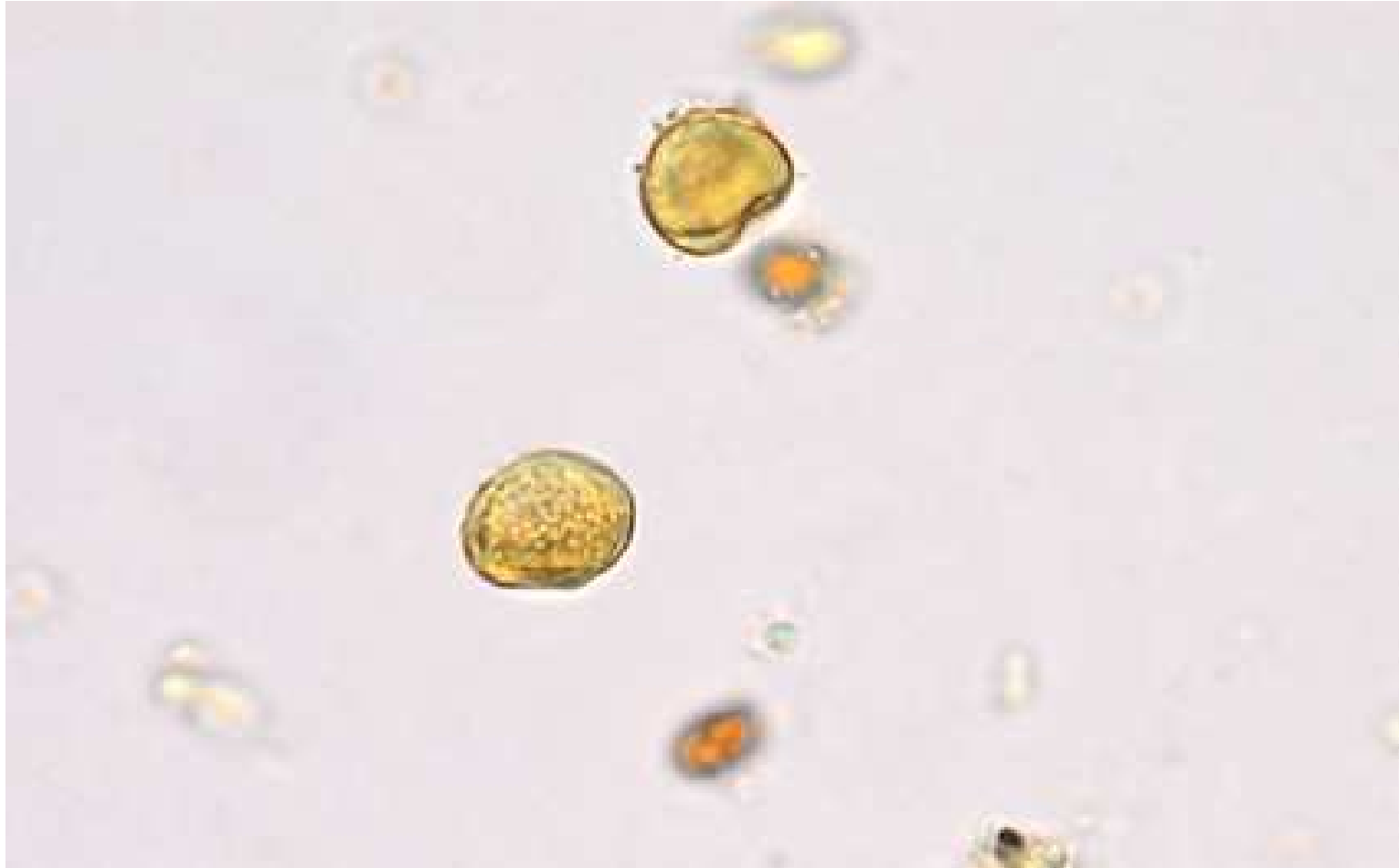
- **Not in same phylum than Ameoba any longer**
- **Phylum : Heterokontophyta**
- **RNA sequencing makes it closer to some diatoms or brown algae but still controversial**
- **Widespread distribution. High rates in people working with animals and in developing countries**
- **Various sub-types with various pathogenicity though this is still under discussion**

# Blastocystis hominis (b)

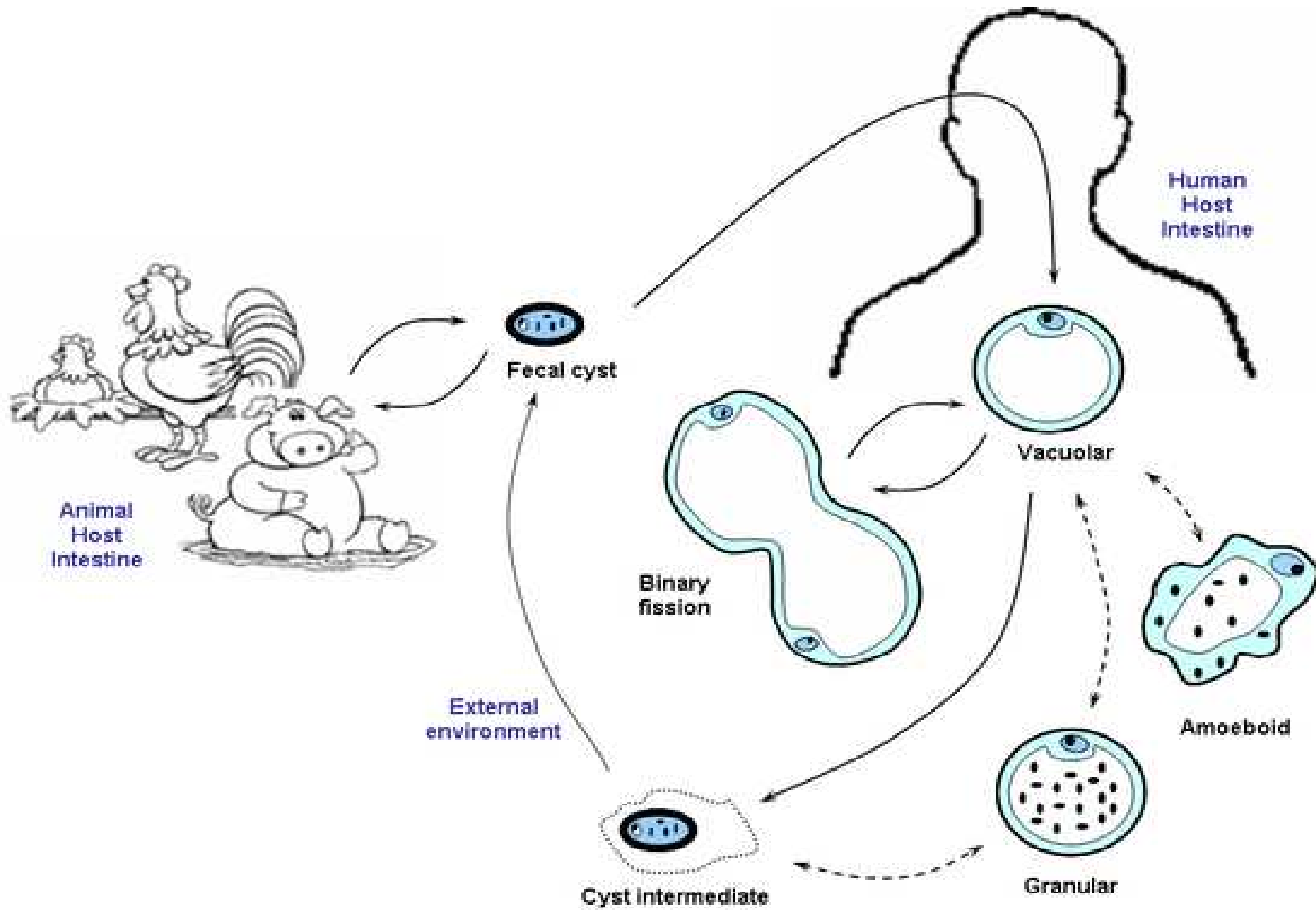
- Some reports of symptoms (diarrhea, nausea, abdominal cramps, excessive gaz, anal itching) but usually asymptomatic
- Faeco-oral transmission via cysts
- Transmission from animal to man may be possible
- Various morphological forms:
  - » Vacuolar
  - » Granular
  - » Amoeboid
  - » cyst

# Blastocystis hominis

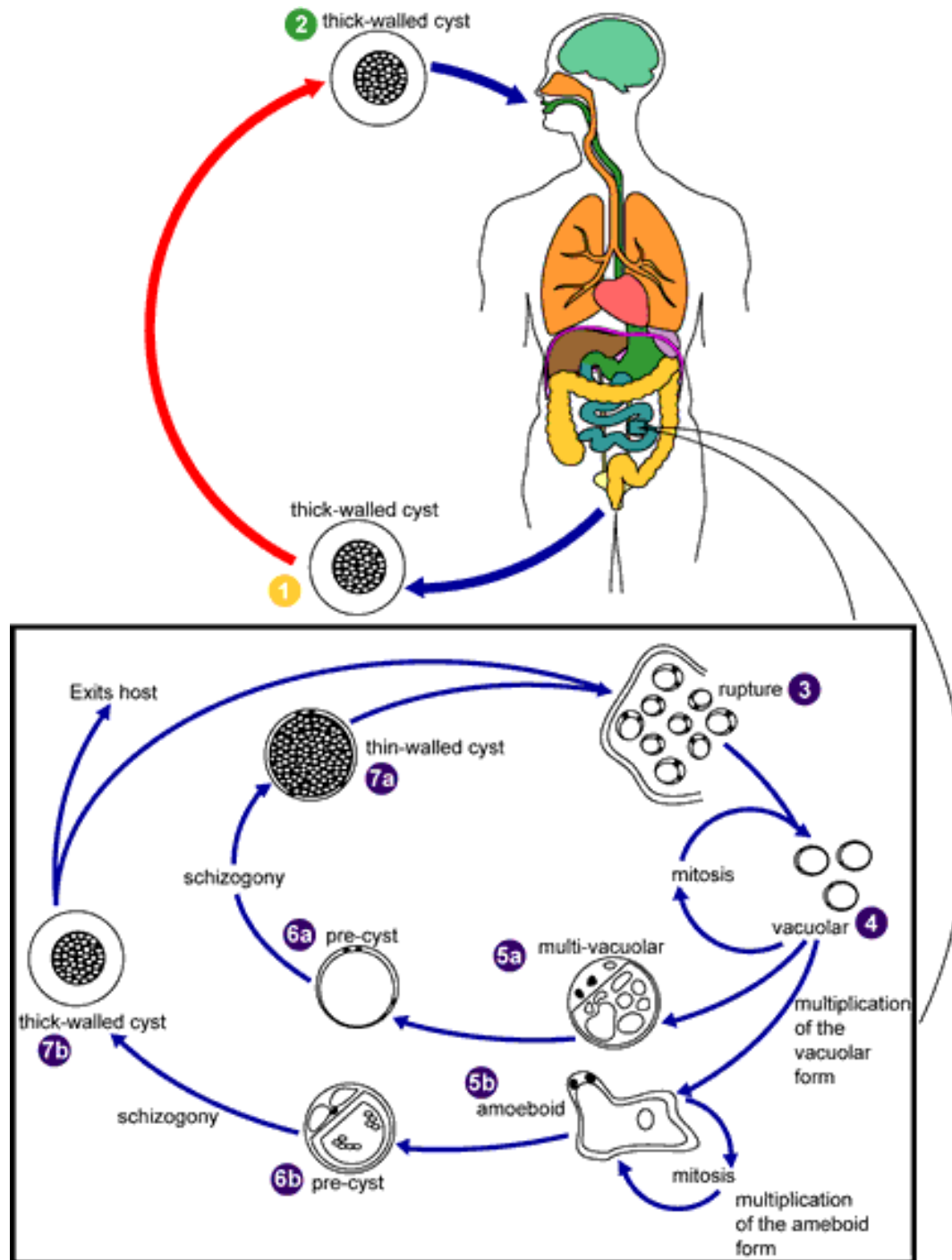
- Above vacuolar form. Below a granular form



# Cycle of Blastocystis hominis



# *B. hominis* Cycle



# Cycle

- The classic form found in human stools is the cyst, which varies tremendously in size from 6 to 40  $\mu\text{m}$
- The cysts infect epithelial cells of the digestive tract and multiply asexually
- Vacuolar forms of the parasite give origin to multi vacuolar and ameboid forms
- The multi-vacuolar develops into a pre-cyst that gives origin to a thin-walled cyst thought to be responsible for autoinfection
- The ameboid form gives origin to a pre-cyst which develops into thick-walled cyst by schizogony
- The thick-walled cyst is excreted in faeces

# Pathology

- **Not sure if *Blastocystis hominis* can cause symptomatic infection in humans**
- **Both asymptomatic and symptomatic persons**
- **Watery diarrhea, abdominal pain, peri-anal pruritus and excessive flatulence have been described**

# Diagnosis

- **Finding the cyst-like stage in faeces**
- **Permanently stained smears (trichrome stained smears) are preferred over wet mount preparations because fecal debris may be mistaken for the organisms in the latter**
  - A. Multiple stool samples (at least 3) should be tested before a negative result is reported**
  - B. To maximize recovery of cyst-like forms, stool samples in formalin, or other fixatives, should be concentrated prior to microscopic examination**
  - C. Choice of diagnostic techniques depends on available equipment and reagents, experience, and considerations of time and cost**



# Management

- **Metronidazole or iodoquinol have been reported to be effective but still under investigation**
- **Trimethoprim/sulfamethoxazole also reported effective**
- **Nitazoxanide has been effective in clearing organism and improving symptoms**