

## Sporozoea

Phylum : Apicomplexa

Class : Sporozoea

Order : Eucoccidia

Genus : *Toxoplasma*

### *Toxoplasma gondii*

#### General Properties :

- **Habitat** : Reticuloendothelial cell.
- **Disease** : Toxoplasmosis, Congenital toxoplasmosis, Cerebral toxoplasmosis.
- **Definitive host** : The domestic cat .
- **Intermediate host** : Man and other mammals (cattle, sheep, mouse and pig).
- **Stages** : There are five forms in *T. gondii* life cycle :
  - 1- Trophozoite (tachyzoite) .
  - 2- Tissue cyst (bradyzoite) .
  - 3- Schizont .
  - 4- Gametocyte .
  - 5- Oocyst .
- **Infective stage** : Tissue cysts
- **Diagnostic stage** : Trophozoites (Tachyzoites) and Cysts (filled with Bradyzoites)
- **Reproduction** : Asexual reproduction (**Schizont** ) in man , Sexual reproduction (**Sporogony**) in domestic cat .

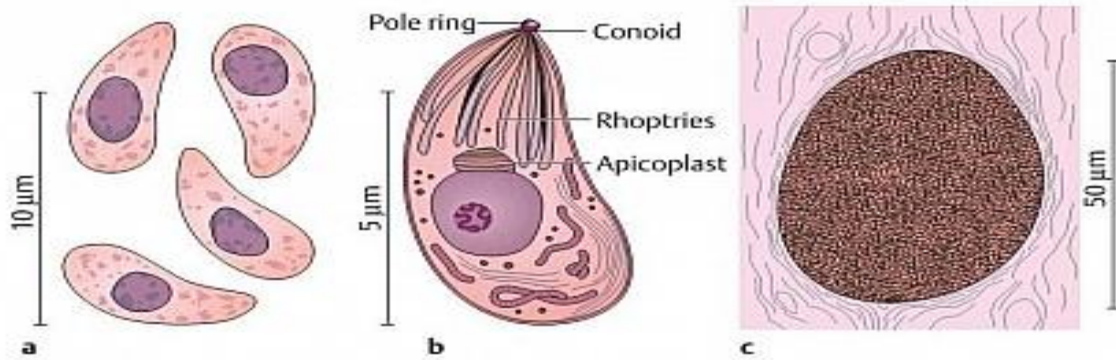
## Morphology

<b>Morphology</b>	<b>Characteristics</b>	
	<b>Tachyzoites</b>	<b>Bradyzoites</b>
<b>General comment</b>	<b>Actively multiplying morphologic form</b>	<b>Slow-growing morphologic form</b>
<b>Size</b>	<b>Size <math>3-7 \times 2-4 \mu\text{m}</math></b>	<b>Smaller than tachyzoites</b>
<b>Shape</b>	<b>Crescent-shaped, often more rounded on one end</b>	<b>Similar to that of the tachyzoites</b>
<b>Number of nuclei</b>	<b>one</b>	<b>.....</b>
<b>Other features</b>	<b>Contains a variety of organelles that are not readily visible</b>	<b>Hundreds to thousands of bradyzoites enclose themselves to form a cyst that may measure <math>12-100 \mu\text{m}</math> in diameter</b>

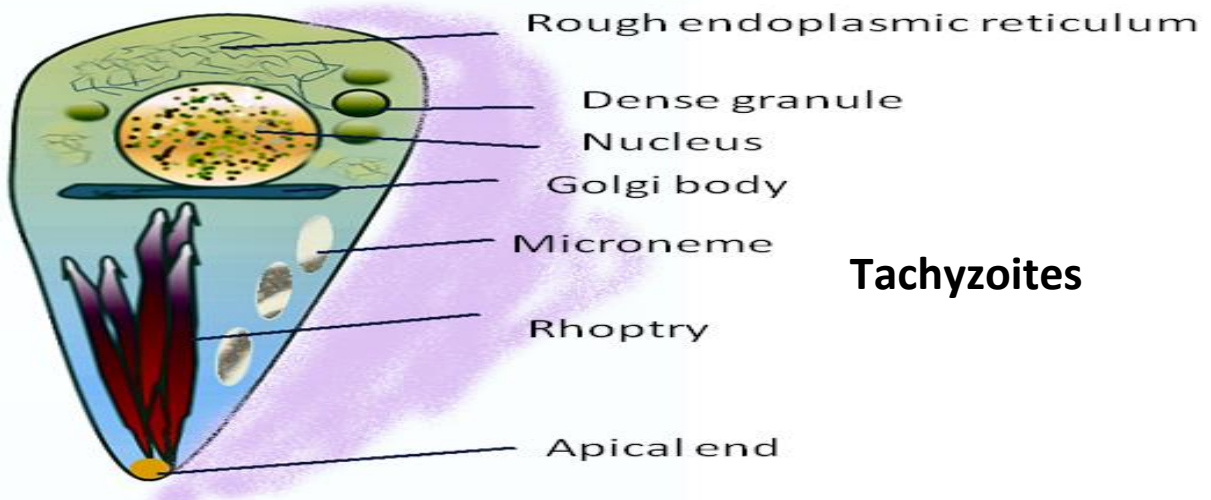
## Laboratory diagnosis

1. Giemsa stain smears from Lymph node, bone marrow, spleen, brain , CSF for trophozoite (tachyzoite) detection .
2. Inoculation of laboratory animals.
3. Serological : Toxoplasmosis is normally diagnosed serologically {ELISA , indirect fluorescent antibody (IFA) , indirect hemagglutination (IHA) test }by detection of parasite-specific IgG and IgM antibodies.

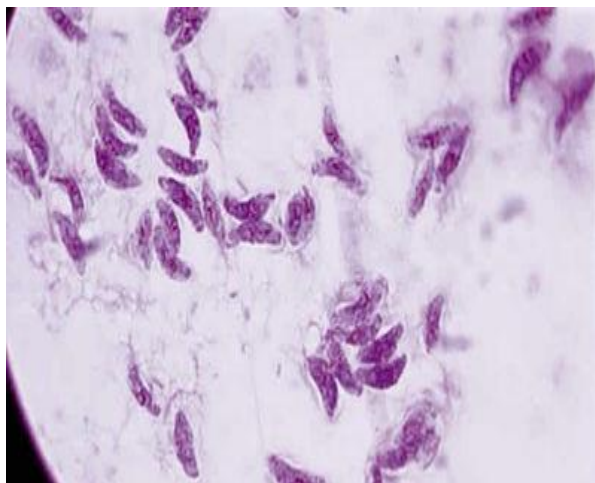
***Toxoplasma gondii***



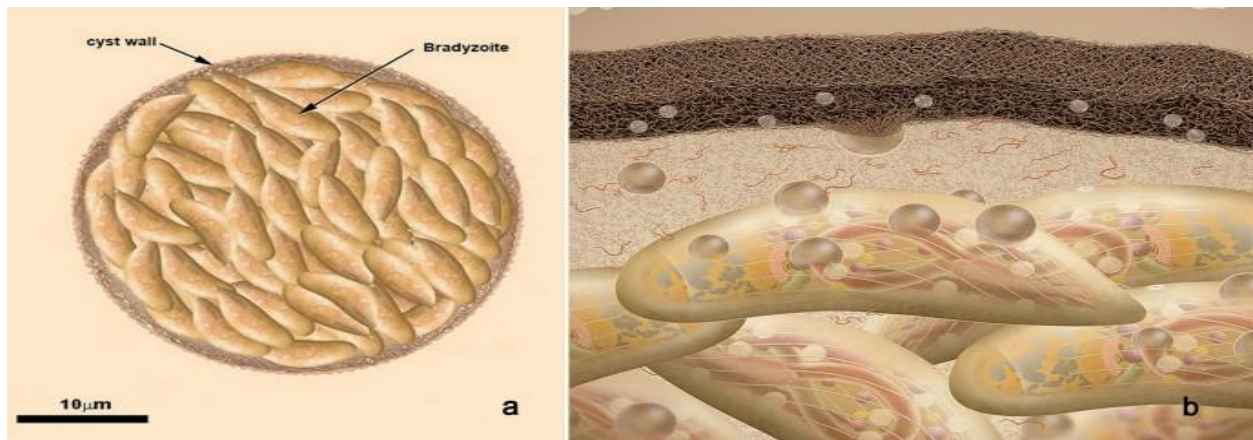
**a** Tachyzoites, **b** ultrastructure of a tachyzoite, **c** cyst with bradyzoites.



**Tachyzoites**



***Toxoplasma gondii* Tachyzoites ( Trophozoites )**



*Toxoplasma gondii* Bradyzoites ( Cyst)

