

**Haemophilus** - Respiratory infections; meningitis; chancroid

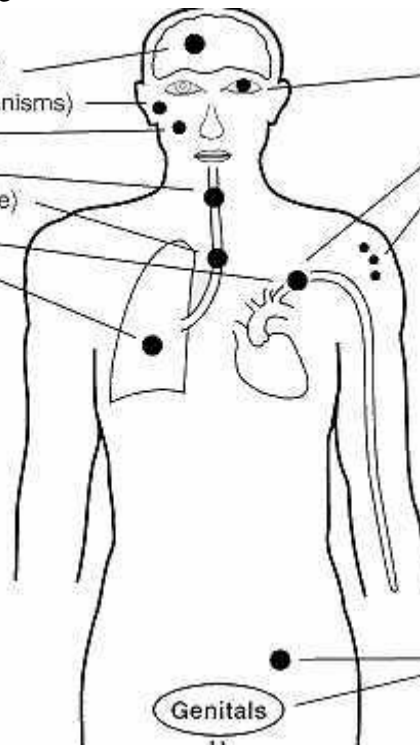
### ***Haemophilus influenzae***

#### ***H influenzae***

- Meningitis (type b organisms)
- Otitis media (nontypable organisms)
- Sinusitis (nontypable)
- Epiglottitis (type b)
- Tracheobronchitis (nontypable)
- Bacteremia (type b)
- Pneumonia (nontypable)

#### ***H aegyptius***

- Conjunctivitis
- Purpuric fever (Brazilian)



#### ***H ducreyi***

- Chancroid (papules & ulcers of genitals, Lymph nodes)

### **Discovery**

- 1883 Koch
- 1890s Pfeiffer
- 1995 entire genome was sequenced

### **The Organism: Morphology**

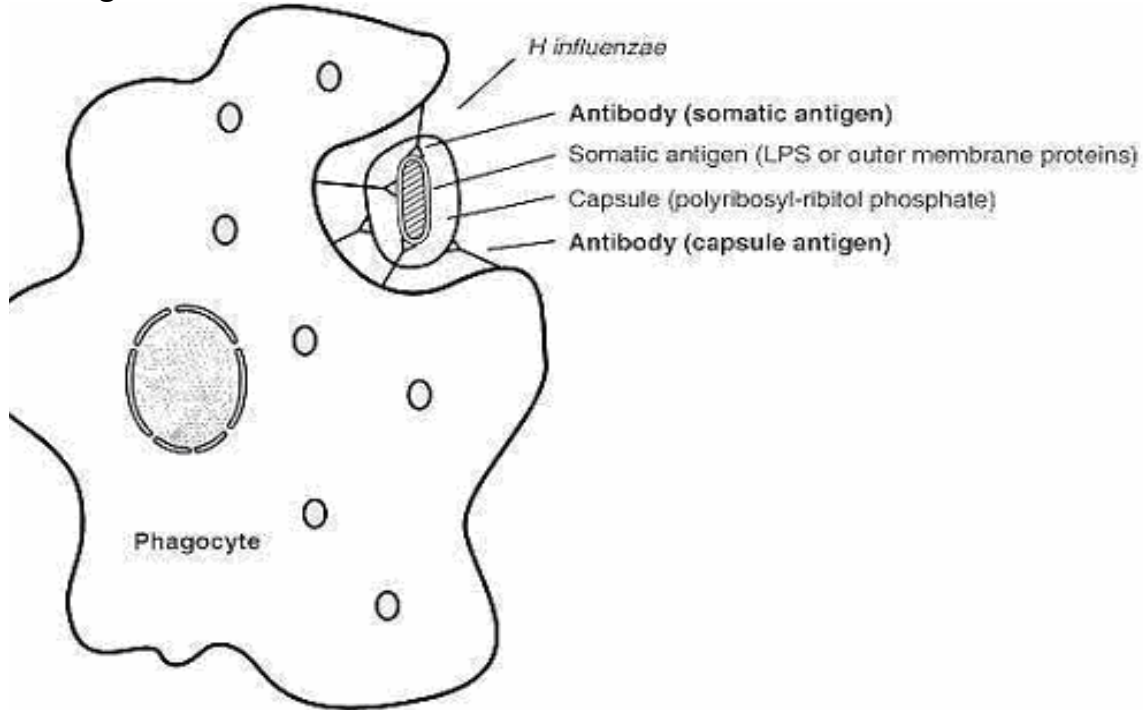
- is a small
- nonmotile
- Gram-negative bacterium
- Capsule:
  - Capsulated → coccobacillus
  - Non-capsulated → pleomorphic
- highly adapted to its human host
  - nasopharynx

### **The Organism: Metabolism**

- facultatively anaerobic
- Anaerobic growth low haemin requirement
- does not require a CO<sub>2</sub> enriched atmosphere
- Biochemical reactions
  - generally-catalase positive and oxidase-positive;

- reduce nitrate to nitrite and ferment glucose.
- Patterns of acid production from other carbohydrates are used to identify the species

### Pathogenesis: Virulence



### Pathogenesis: Normal Carriage

- exclusively a human parasite
- upper respiratory tract
- Immunization reduces carriage

### Pathogenesis: Invasive infections

### Other Haemophili

- Occasionally implicated in human disease
  - H. parainfluenzae
  - H. aphrophilus
  - H. paraphrophilus