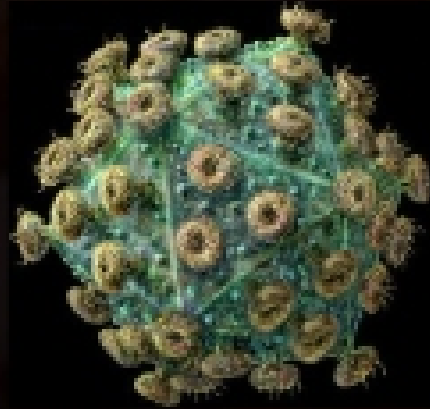


# Chemotherapeutic Agents



- **Antibiotics**
- **Antifungals**
- **Antivirals**
- **Anthelmintics**
- **Antiprotozoal**
- **Anticancer drugs**

# Fungal Growth Patterns

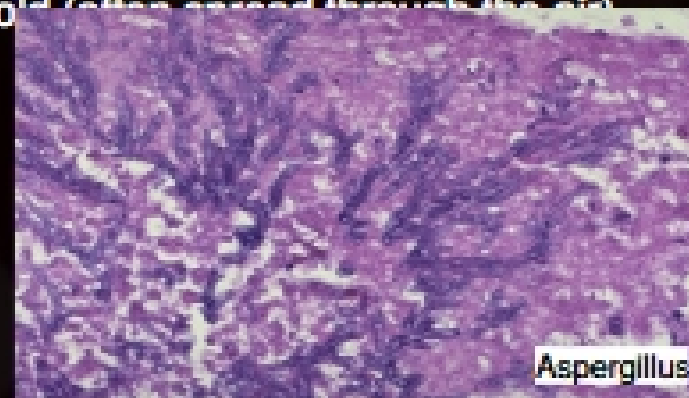
- **Yeasts**

- **Unicellular** fungi, reproduce by **budding**
- Moist mucoid or waxy colonies that resemble bacteria




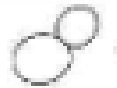








- **Molds (=Filamentous Fungi)**

- **Multicellular** filamentous, “fluffy” colonies consisting of branching tubular structures called **hyphae**
- Collection of intertwined hyphae called **mycelium**
- **Vegetative hyphae** act like roots, penetrating the supporting medium and absorbing nutrients
- **Aerial hyphae** project above the surface of the mycelium and bear the reproductive structures of the mold (often spread through the air)



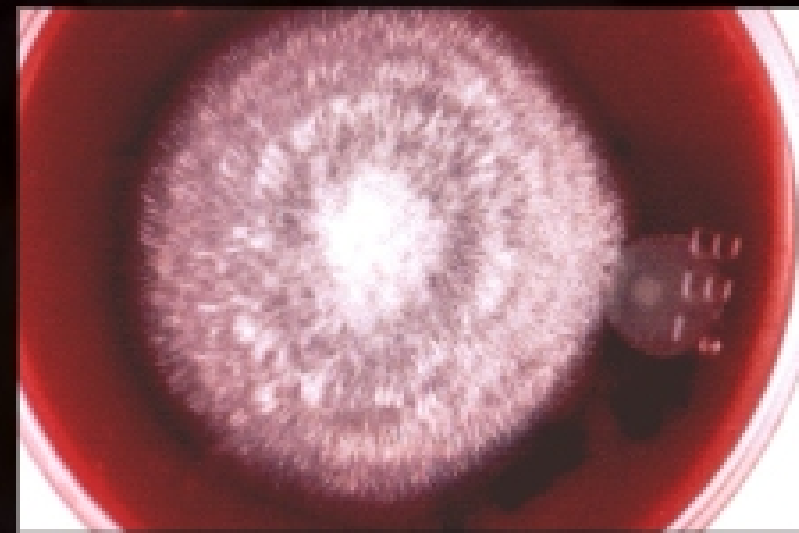
# Fungal Growth Patterns

- **Dimorphic Fungi**
  - Grow as **molds at ambient** environmental temperatures (e.g. 25° C) where they form reproductive spore structures.
  - Spores are aerosolized and infectious
  - Inhaled spores grow as **yeasts at body temperature** (37° C) in the host

| Fungus       | In vitro (25° C)   | In vivo (37° C)  |
|--------------|--|--|
| Blastomyces  |  Mold |  Yeast    |
| Coccidioides |  Mold |  Spherule |
| Histoplasma  |  Mold |  Yeast    |
| Pennacillium |  Mold |  Yeast    |
| Sporothrix   |  Mold |  Yeast    |



Yeast form



Mold form

*Coccidioides immitis*